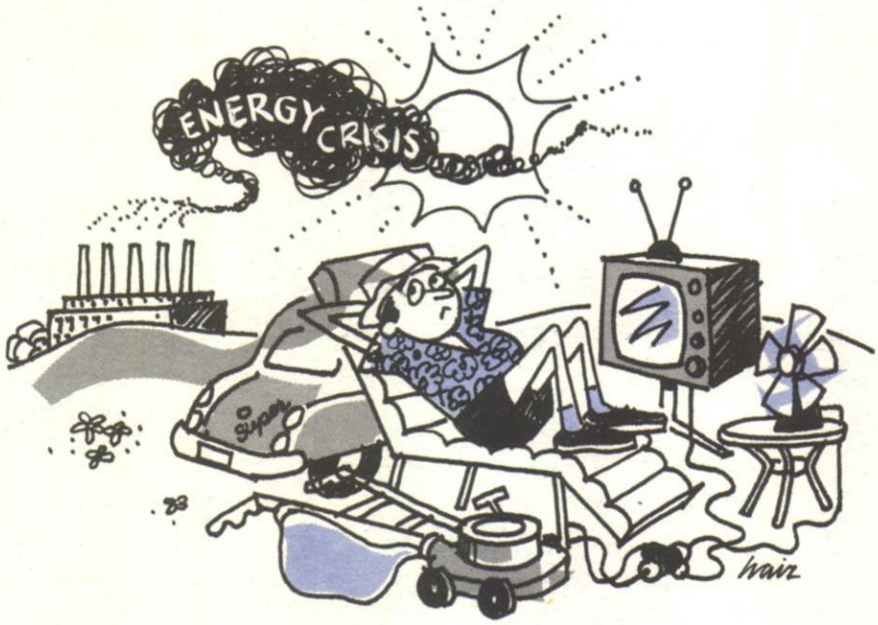
California Journal

THE MONTHLY REPORT OF STATE GOVERNMENT AND POLITICS

Special Report:

California and the Energy Problem



Crisis, Crunch, or Conspiracy?

- Energy supply and demand
- A look at state planning

Three Viewpoints:

- Legislature considers a bill
- Utilities try to meet demand
- Power and the environment

June 1973

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a california journal...

Stanford slept here

When Leland Stanford took office as Governor of California in 1861 (the state's first Republican Governor, as the generally Democratic *Sacramento Bee* is fond of noting in a harmless display of bipartisanship), the rains had come. Since Sacramento occupies a flood plain, there was no way to keep the swollen Sacramento River in its place. Consequently, the Governor was fetched from his residence by rowboat, mounting directly from the front parlor window, they say, to attend his inauguration. A hundred years later, a Governor might think to build a dam to solve the flood problem, but Stanford took more immediate action: he jacked up the two-story brick house about 20 feet, installed a new ground floor, and, while at it, a new top floor, giving the residence its present Mansard look. By the time he had completed his term as Governor and helped Mark Hopkins, Collis P. Huntington, and Charley Crocker drive the Central Pacific across the Sierra Nevada, Stanford had also added a south wing. These changes brought the number of rooms in the house to 44, and inspired one observer to call it "the most perfect residence in this state." It was in this grand house that the Stanford's only child, in whose memory a university stands, was born.

These acts were recalled to us recently when the Roman Catholic Diocese of Sacramento, which has operated the house as a home for dependent teen-age children since 1899, when Mrs. Stanford gave it to the diocese for that purpose, opened the house to the public for a few days.

Approaching the house on N Street from 9th, the visitor stumbles upon a treacherous, if historic, stretch of original Sacramento brick sidewalk adjacent to the Stanford House. At the entrance, an elegant staircase rises from a checkerboard setting of black-and-white marble. Once inside the former ground floor, now the second floor, we were ushered into a parlor (the same one from which Stanford was launched on his gubernatorial reign). A delicately inlaid table occupies the center of the small room, which is pleasantly lighted from its double exposure. On the walls of the adjacent music room are portraits of Mr. and Mrs. Stanford — he rather square of face, and his looks are shared by the young Leland Junior on the wall opposite. Forming a T with the entrance rooms and hall is a huge banquet hall, which, though in some disrepair, contains several original pieces. There is a bookcase, for example, decorated by a carved locomotive and tender bearing the Stanford S. The railroad theme finds an echo here and there and, most charmingly, in the one remaining etched gaslight globe beside the east fireplace of the banquet hall.

Upstairs is the master bedroom, which is the best preserved room in the house. Almost all the furnishings are original. These include the Stanfords' bed, which is not canopied but equipped with a towering headboard. In a corner with a northwestern exposure is a simple black crib, Leland Stanford Junior's. A long-delayed offspring, Junior's birth was an event that generated far more than the usual parental elation. (Indeed, so proud were the parents, the story goes, that the infant once was introduced to dinner guests on a silver platter still displayed in the dining room.) Fate was unkind to the boy, however, who died at 14 of typhus contracted in Italy while on a grand tour of the continent.

It's a charming house, and the Catholic Church has done its best to maintain it. For a number of years, in fact, the Sacramento diocese, strongly backed by the *Sacramento Bee* and Assemblyman Edwin Z'berg, has made it clear that it would be happy to have the state assume responsibility for preserving the Stanfords' home in Sacramento. A $951,000 item in the Assembly version of the Governor's Budget, put there with the Governor's blessing, will permit the state Department of Parks and Recreation to acquire the Stanford House this year as a historical site. Restoration would follow shortly, and the residence that shamed the State of California into acquiring the Governor's Mansion, now preserved as a museum at 16th and G Streets, will in its turn be a part of the public domain.

The ice plant cometh

Last winter's "once-in-a-generation" frosts froze what was estimated at the time to be about $4 million in plantings along the state's highway system. Particularly hard hit were stands of ice plant, which is used extensively as ground cover at interchanges and along raised roadways as a means of controlling erosion. Trees didn't fare too well, either, at least not those in the more exposed locations, and especially acacias and eucalyptus. As summer arrives, however, nature's vitality has reasserted itself with such a vigor in our own yard that we wondered if the state Division of Highways was finding a similar result in its. Apparently, it is indeed. In fact, the original damage estimate has been trimmed to about $2.25 million, according to William Seabury, supervisor of landscape architecture, a sum that the Highway Commission will be asked this month to provide.

We asked Seabury what effect the unusual spring that followed the unusual winter has had on our highways' landscaping. "We've had quite a bit of response from the ice plant," he said, "and the area that originally looked heavily damaged along the south coast, from Salinas to San Luis Obispo, is pretty well recovered. Most of the damage now is in the valley here, between Fresno and Sacramento, in Contra Costa County, and in the west Bay Area."

Many eucalyptus and acacias thought to be dead, particularly in southern California, responded to pruning, Seabury continued. Those that did die, however, followed no particular pattern, sometimes only a few in a clump being mortally touched while the others flourish, and vice versa. "If there's a lesson to be learned," Seabury suggested, "I guess it's that plants, like humans, are individuals, and some are hardier than others."

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Special Report: Crisis, Crunch, or Conspiracy?

A very substantial portion of this issue of the California Journal *has been devoted to a description and analysis of the current energy "crisis" as it applies to California. Our objective is twofold: first, to summarize in one place the most reliable information we have been able to uncover as to the nature and extent of the problem for this state, and second, to present some contrasting viewpoints as to how the state should respond to what seems very likely to be one of the major policy issues of the seventies. For this second purpose, we have departed somewhat from our usual format and have included three frankly partisan articles: the authors are Assemblyman Charles Warren, who is sponsoring a major piece of legislation in the area; David J. Fogarty, a Vice President of Southern California Edison; and William H. Press, Executive Director of the Planning and Conservation League. Following these articles, the reader will find a recorded interview in which the views of these three men are explored further in an effort to bring into sharp focus the points on which they agree and disagree.*

Certainly, this will not be the last we will have to report on the energy problem, for we are confident that it will be an important matter of public policy for many years to come, but we hope it will provide our readers a useful summary of the problem to date.

California and the Energy Problem

"Energy problems facing the state and the nation are of such potential danger and importance that they require solutions and methods that may seem drastic at first glance. However, we are concerned that nothing less than an all-out, concerted effort by all branches of government and all citizens will enable us to overcome these energy problems."

So said Dr. Lester Lees, professor of environmental engineering at California Institute of Technology and chairman of a two-day conference on energy called by Lt. Governor Ed Reinecke, summing up the findings of the conference that were to be passed on to Governor Reagan last month. If there was any question, however, as to whether energy had become a major public issue in California, it had already been answered earlier in May when, within a period of one week, three leading contenders in the race for the Governor's Office in 1974 spoke out on the subject. On May 9th, Assembly Speaker Bob Moretti announced a legislative investigation of the threatened gasoline shortage in California, suggesting that it might be "some funny business" on the part of the oil industry to gain higher prices and lower pollution control standards. "No small amount of doubt is raised in my mind," said Moretti, "as to the substance behind what may be a carefully orchestrated crisis."

In a speech the following day, State Controller Houston I. Fluornoy accused Moretti of engaging in "populist demagoguery". The energy crisis, he said, "is not a public relations gimmick by the oil companies and utilities to rip off concessions from public agencies." California is faced with a real energy crisis, Flournoy argued, because the suppliers of energy "cannot continue to satisfy our ravenous and growing appetities for energy at prices we can live with." Then, a few days later, Lt. Governor Reinecke told his assembled panel of experts that because of "our technology and the even greater clamor of our citizenry, we are unquestionably facing the threat of massive shortages of crude oil, gasoline, and natural gas, along with low-sulphur coal and other forms of ecologically acceptable energy producing materials."

Thus the issue has been framed in the language of the engineer and the politician, but, for the interested citizen, there remains considerable confusion and uncertainty. To form an understanding of the matter that can be translated into effective public and private action, there are a number of basic questions that must be answered. Among them:

- Exactly what sources of energy are now in short supply and why?
- What other sources of energy are likely to be in short supply in the future?
- What is the probable impact on our environment if we continue to increase our demand for low-cost energy as we have in the past?
- What can we do to reduce the demand for energy without making unacceptable changes in our way of living?
- What public actions should be taken to balance our need for additional energy against our desire for a better environment?
- What can be done now to begin developing new sources of energy to replace those that we know will become increasingly scarce?

These are difficult and complex questions, to be sure, but the sooner we began to develop answers, the sooner we can trade the current crisis rhetoric for the more productive language of effective public and private action. As Marc J. Roberts observed in a recent article entitled "Is there an energy crisis?" in *The Public Interest*, "The source of our difficulties does not lie in an unkindly nature, the volatility of Middle Eastern political systems, or the cynical machinations of the gnomes of Zurich. It lies in our unwillingness to consider details, in our consumption of news as entertainment, and in the apparent limitations of our political and social-choice processes when confronted with complex, technical problems. Now there, we have a *real* crisis."

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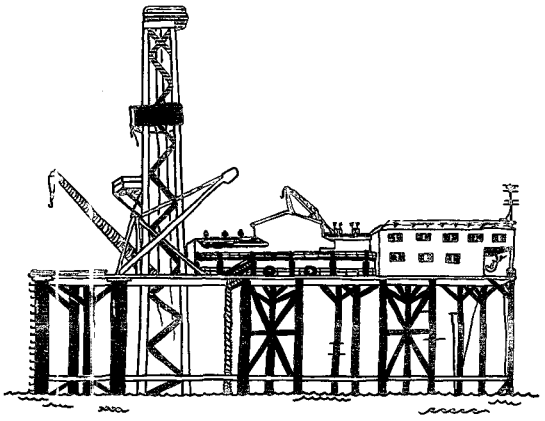
New Challenges, New Resources: The Supply and Demand for Energy in California

Californians depend upon six basic sources of energy to heat their homes and offices, power their automobiles and washing machines, cook their meals and drive their assembly lines, light their streets, and cool their stores. These are oil, gas, falling water, coal, nuclear fission, and underground heat. Of these, oil and gas, which came into general use at the turn of the century, are now by far the most important. Oil provides 49 percent and gas 40 percent of the state's basic energy requirements. Falling water, or hydropower, important to the generation of electricity, is a distant third, providing nine percent of total energy requirements in 1970.

The uses of this energy can be grouped under five headings: transportation, the generation of electricity, and industrial, residential, and commercial uses. California's climate and lifestyle make transportation the largest single market. Automobiles, trucks, railroads and ships together account for 36 percent of the total energy use in this state. Automobiles alone account for 61 percent of the transportation market and 22 percent of total energy usage. Factories, mills, processing plants, and other industrial users constitute the second largest energy market, using 25 percent of basic energy supplies. Electric utilities are the third largest energy market, converting oil, gas, coal and other basic fuels into electricity for transmission to final consumers. Electric utilities now use about 24 percent of the total basic energy supply, but their share is increasing rapidly. Finally, there are residential and commercial users of primary energy, principally gas, who account for 11 and four percent of the total market.

With 10 percent of the nation's population, California accounts for about nine percent of the nation's total energy consumption. Residential and commercial uses account for approximately the same share of California's total consumption as for the nation as a whole, but (according to data reported by the Resources Agency and Stanford Research Institute), Californians use a much larger share for transportation and proportionately less for other industrial uses. California also differs from the rest of the nation in that it uses very little coal, but relies to a much greater extent upon oil and gas.



California's demand for energy in all forms has been growing by 8.9 percent a year over the past 10 years. Recent projections of future demand indicate that the state's total consumption may double by 1985 but then grow somewhat more slowly, so that by the end of the century it is expected to be about 2½ times the 1970 level. The greatest increase is expected to occur in the commercial sector, reflecting a continuing orientation in the economy toward providing services, as opposed to producing goods. At the same time, however, primary energy sources are expected to be converted increasingly to electricity, so that as far as final consumers are concerned, electricity will increase from 22 percent in 1971 to 41 percent in 2000.

Energy supply

According to recent state projections, oil and natural gas will continue to make up nearly two-thirds of the energy supply through 1985, largely because of the time lag in developing other sources of power. By the end of the century, however, nuclear power for the generation of electricity is expected to pass natural gas and begin to catch up with oil as the primary energy source. By source, here is California's supply-and-demand situation for energy:

Oil. In 1970, California consumed 1.29 million barrels of oil per day, of which only 950 thousand barrels, or 74 percent, were produced within the state. Thus California, like the rest of the nation is increasingly dependent upon imported oil. According to Resources Agency estimates, if the decline in domestic oil and gas production continues at its present rate, by 1985 California will have to import nearly 2.5 million barrels a day, more than 80 percent of total supply. Unless the proposed Alaska pipeline is constructed, the major source of imports will be the far east, the nearest source of low-sulphur oil.

Alternatively, California might exploit its own recoverable reserves, which are now estimated to contain 30 billion barrels of oil, of which over 75 percent is located offshore. Under optimum conditions, according to state geologists, California could produce as much as 2.6 million barrels per day by 1985, with full development of all onshore and offshore reserves, including

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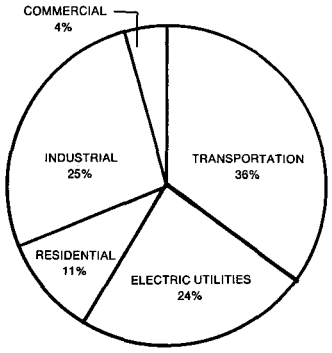
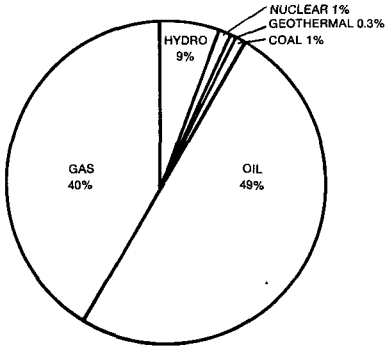
CALIFORNIA ENERGY USES (1970)

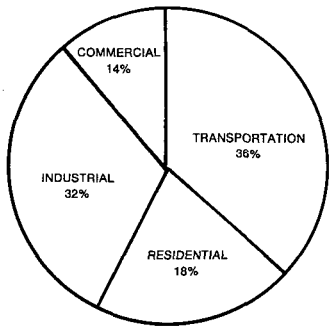
1. PRIMARY ENERGY MARKETS



2. PRIMARY FUELS



3. FINAL CONSUMERS OF ENERGY



Source: Resources Agency

those of the federally owned outer continental shelf, making itself essentially independent of imports (assuming that domestic oil is sufficiently low in sulphur content to meet air-quality standards). This is unlikely to occur, however, because it would require unprecedented financial incentives to get the oil companies to step up their exploration and production to this extent. It also seems doubtful, now, that the Alaska pipeline will be constructed to make Alaskan oil available to the West Coast. More likely is a trans-Canadian pipeline that will deliver the oil to the Midwest and East.

Gasoline. However it is obtained, oil must be refined before it can be used. According to industry sources, however, California's and the nation's refining capacity will not be able to meet this year's demand for gasoline and diesel fuel because existing refineries are operating at capacity and no new refineries have been constructed in this country in recent years. Other industry sources point out that California's refineries operated at only 85 percent of peak capacity in 1972 but should be able to maintain operations at 92 percent of capacity — an increase that would more than satisfy this year's demand. The real problem, these sources say, is that independent refineries are having increasing difficulty in obtaining crude oil, an estimated 70 percent of which is owned by the major oil companies. The major companies are also cutting back on sales of gasoline to independent service stations, it is charged, in an attempt to freeze them out of business.

Whatever the facts, (which at least two Assembly Committees are now trying to ascertain), many of the independent retailers are running short of gasoline, and all of the major distributors have announced that they have begun "allocating" gasoline to their stations, in most cases at the same level as 1972 sales. And cities like San Jose and Bakersfield have been told by their suppliers that this year they will be able to provide only 70-85 percent as much gasoline for city cars, trucks, and buses as they did last year, and the price in several instances has gone up sharply. Although a threatened gasoline shortage over the three-day Memorial Day weekend failed to materialize, it now seems probable that the threat, at least, will remain through summer.

Gas. Natural gas now provides 40 percent of California's primary energy. It is particularly important for residential and commercial heating, producing steam for electric power generation, and other industrial uses. It has come to be especially valued because of its clean-burning qualities. It appears, however, that California may have to get along with less rather than more gas over the next 15-30 years. Gas production within California, which now meets about 22 percent of the state's needs, began declining in 1968, and production elsewhere in the country is expected to peak by 1976. Gas imports are expected to rise little, if at all, over the next 10 years, then begin to decline.

Although the major pipeline companies reported only a few years ago that the future supply of gas would be adequate, nearly all now say they cannot get enough gas to meet even current demand. One of the largest pipeline companies and a major supplier for California, El Paso Natural Gas Company filed a curtailment plan with the Federal Power Commission to allow it to set up a priority for allocating its available supply of gas. Many of the pipeline and oil companies (which own most of the domestic gas fields) are seeking new sources of gas, but the supply for California will likely fall increasingly short of the potential demand throughout the rest of the century.

It has been argued that the interstate prices and rates of return for pipeline companies set by the Federal Power Commission have greatly discouraged exploration. But, even if the FPC loses its authority to set interstate gas prices, as President Nixon proposes, few experts expect a dramatic increase in the supply of natural gas. Accordingly, state officials and utility representatives believe that the electric utilities will have to continue to convert from gas to oil to run fossil-fuel-powered generating plants.

Hydropower. Hydropower now provides only about nine percent of California's total primary energy, but it supplies more than a third of the power used to generate electricity (including imported electricity). The Resources Agency expects no more than an eight percent increase in hydropower by 1985, however, because

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a majority of the most desirable dam sites have either been exploited already or are likely to be protected from use by conservationists. Thus, hydropower is not expected to be a significant factor in meeting California's growing demand for energy.

Coal. Although coal is found in 43 California counties, at only a few locations is it deposited in sufficient quantity and quality for mining. Consequently, with the exception of coking coal, California has not relied heavily on coal, and few experts believe that California will in the future, either (although there is a very large quantity of low-sulphur coal in the Rocky Mountain States which may be used for out-of-state electric power and gassification plants that will serve southern California). The specter of large-scale strip-mining in the mountain states may be enough, however, to greatly restrict the exploitation of these reserves.

Nuclear energy. There is now only one major nuclear power plant operating in California, but to many experts nuclear power is the key to meeting the state's energy needs. As gas and low-sulphur fuel oil become increasingly scarce and costly, nuclear power becomes increasingly attractive. Southern California Edison, for example, plans to construct at least a dozen new nuclear power plants over the next two decades, and other larger public and private utilities have similar plans.

There are several reasons, however, why this development may be slowed considerably. One is that many experts believe that the problem of guarding against serious nuclear accidents is yet to be solved. This is the "emergency core cooling" problem (back-up safety system) with which the U.S. Atomic Energy Commission, in particular, is grappling. Another is the problem of storing and protecting radioactive nuclear wastes. It is also possible that the available supply of uranium might be quickly exhausted if the number of nuclear plants were to grow rapidly. Because of this, the federal government is investing considerable sums in the development of a breeder reactor for power plants. Commercial power from breeder reactors, which produces more fuel than they consume, is not expected until the 1990's, but, as such reactors come into use, there will no longer be a nuclear fuel problem.

The AEC has under consideration several applications for nuclear power plants, and some observers expect its approval to come without significant delay. On May 31st, however, Ralph Nader and the Friends of the Earth filed suit in a federal court to halt the operation of 20 nuclear plants, including the one in California. The suit charges the AEC with "illegality . . . in continuing to permit the operation of certain nuclear power plants without requiring adequate protection for the health and safety of the public by way of effective safeguards against the consequences of an 'uncontrolled loss-of-coolant accident' . . . " If the safety problem can be solved to the satisfaction of most critics, nuclear power plants will become a major source of electrical power for California before the end of the century. If not, the energy problem is very likely to become a real crisis within a decade or two, unless steps are taken to greatly reduce the waste of electrical energy.

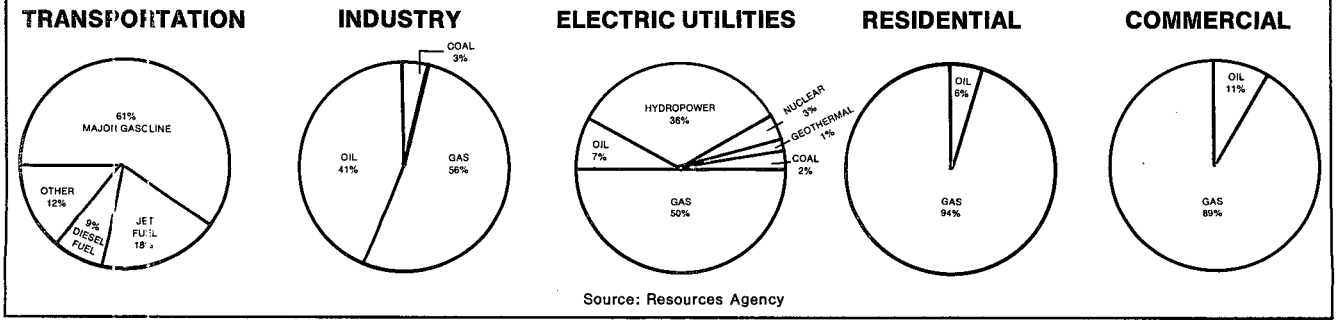
Geothermal energy. Steam from beneath the earth now drives Pacific Gas and Electric turbines at The Geysers in Sonoma County at a cost that compares favorably with alternative energy sources. Geologists believe that much larger reservoirs of steam lie beneath the Imperial Valley and that, if tapped, they could produce as much as 30,000 megawatts of electrical power by the year 2000. The pace of development has been very slow, however, largely because the existence of the reservoirs has not yet been proved and because the electric utilities have not yet considered this an important source of energy.

Nevertheless, many investigators have urged state and federal action to accelerate exploitation of this very clean source of energy. In addition, experiments are underway to tap dry geothermal energy by forcing cold water down through hot subsurface rocks and then back up again as hot water from which the heat would be extracted to drive a generator before the water is again recirculated into the earth.

Solar Energy. Energy derived directly from sunlight has been used on a small scale for thousands of years, but suddenly it has become one of the great hopes as a primary source of clean, efficient energy. There are many ways in which solar energy might be harnessed. These range from small units for residential water and space heating, to central-electric power generation, and orbiting space stations that would transmit the solar power to earth in a concentrated beam.

While no economical applications yet exist in this country, research is growing and may be expected to increase more rapidly as the energy shortage grows more serious. The most promising system now for converting solar energy into electricity calls for blanketing a large area of relatively consistent sunlight with photovoltaic cells. About 27 square miles of these cells in the Arizona desert could generate 1,000 megawatts of

PRIMARY SOURCES OF ENERGY FOR EACH MAJOR MARKET



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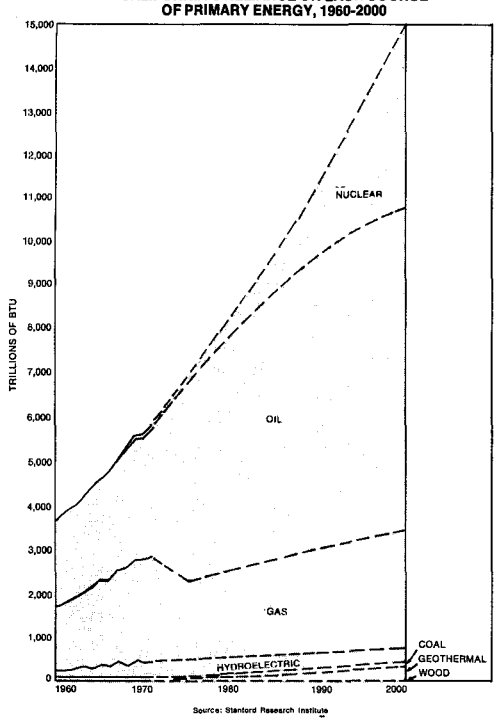
CALIFORNIA'S RELIANCE ON EACH SOURCE OF PRIMARY ENERGY, 1960-2000



power, nearly as much power as is produced by a large nuclear plant, according to one estimate.

Conclusions

In the face of serious gaps in current information about fuel supplies and important contradictions in much of the data that is available, it is hazardous to attempt to summarize the present energy supply-and-demand situation except in general terms.

To begin with, California has not yet been hit by what can be called an energy "crisis", but such a crisis could develop in the next decade unless the supply of energy is substantially increased or the growth rate of demand slowed, or both. Meanwhile, California is faced with a tight supply situation with respect to gasoline, fuel oil, and natural gas, and the problem is likely to get somewhat worse before it gets better. As a consequence, there will be strong upward pressures on the price of energy to consumers, but the extent to which prices actually rise will depend on a number of factors — including the ability of consumer groups to mobilize large-scale opposition to such increases.

It is also evident that electrical utilities, confronted by declining supplies of natural gas and rising prices for low-sulphur oil, want to move as quickly as possible with the expansion of nuclear power-generating capacity while also adding some new fossil-fuel plants to meet rising demand ovor the next decade or two. The much-publicized energy "crisis" serves as a means of exerting considerable pressure on public officials to cooperate. At the same time, however, environmentalists and others are exerting strong counterpressures to slow development of nuclear power generation — at least until they are satisfied that reasonable safety features have been provided — and to encourage greater concern for the conservation of energy along with the conservation of all the other natural resources of the state. In all probability, the point at which these two pressures are balanced by state officials will serve as a rough indicator of what Californians consider to be the proper balance between energy and the environment.

A Look at the Record:

Has State Government

BY MAUREEN FITZGERALD

Although it is only within the past six months that the energy crisis has become frequent front-page news in California, state and local officials, environmentalists, and the utility companies have been dealing with several elements of the problem for a number of years. Little has been accomplished, apparently, to forestall the developing crisis, yet it would be a mistake to say that nothing has been achieved or that public officials have been taken entirely by surprise by a matter that should have been foreseen.

In 1965, for example, in what was considered to be a pioneering effort, California adopted a state policy on the siting of thermal power that was intended to insure that environmental factors would be carefully considered before new power plants were constructed. The need for such a policy had become evident as a result of the increasingly intense opposition to proposed new power plants along the coast, and particularly of the successful opposition of conservationists to the Pacific Gas and Electric Company's proposed nuclear plant at Bodega Head in northern California. "It is the policy of the State of California" the statement reads, "to ensure that the location and operation of thermal power plants will enhance the public benefits and protect against or minimize adverse effects on the public, on the ecology of the land and its wildlife, and on the ecology of state waters and their aquatic life . . . . Because sites of power plants often are critical to the interests of the state, plant owners should meet with the state's Secretary for Resources early in the planning stage to review and define proposed locations."

To carry out this policy, a Power Plant Siting Committee was set up. It was composed of representatives of the of the Departments of Conservation, Fish and Game, Navigation and Ocean Development, Parks and Recreation, Public Health, and Water Resources, the State Water Resources Control Board, the Air Resources Board, and the State Lands Commission. This committee was to review each proposed power plant against such criteria as the effect of the plant and its operation on existing or proposed state or local controls regulating air and water quality, fish and wildlife, the preservation of important recreational and scenic areas, geologic and seismic conditions, and the location and construction of cooling systems. After working out any necessary modifications in the planned construction, the Resources Agency and the utility were to sign a "statement of understanding" that on specified matters covered in the agreement the Resources Agency would not oppose the utility in its application before the Public

Maureen Fitzgerald is a researcher with California Research Consultants.

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Done Its Part?

Utilities Commission for a certificate of "convenience and necessity" or before other bodies having jurisdiction, such as the U.S. Atomic Energy Commission. (Such agreements were not to preclude the Resources Agency from opposing a proposed plant on matters not covered in the agreement or on conditions that changed after the original agreement.) Between March 1965 and March 1971, 12 agreements were signed, involving 11 sites, of which three were partially developed prior to the initiation of the review procedure.

Long-range planning

By 1969, however, it had become evident that a longer-range look needed to be taken at problems associated with meeting the rapidly growing demand for electrical power. In August of that year, therefore, the Assembly passed House Resolution 459, directing the Resources Agency, in cooperation with the electric utilities, to prepare a long-range plan covering at least 20 years for the establishment of power plant sites to meet projected state growth. The plan was to indicate approximate locations of new power plants and the dates for their construction, but it was not to represent specific utility commitments. It also was to be reviewed and modified as necessary on a continuing basis. The completed plan was to be submitted by February 15, 1970, to the Legislature's Joint Committee on Atomic Development and Space. In 1970, the Resources Agency did submit a report, *Siting Thermal Power Plants in California*, describing the state's electric-power supply, existing technology used in generating electricity, environmental considerations of power plant siting, predicted load growth, and the need for additional power plant sites, but without a 20-year siting plan. The principal finding expressed in the report was that 10 new power plants would be needed by 1990, but that the utilities were experiencing difficulty in identifying sufficient environmentally acceptable sites for the projected capacity. To resolve this problem, the agency proposed: that it again be directed by the Legislature to develop a 20-year plan for the general location of power-generation facilities to assist the state and the utilities in meeting anticipated electrical needs; that before adding to existing facilities or constructing new plants all utilities be required by law to obtain an agreement from the Secretary for Resources with respect to environmental matters; that a study of siting of underground power plants be undertaken by the Resources Agency with emphasis on outlining areas where development work might be required; and that the Legislature encourage Congress to enact federal legislation to open appropriate public lands to geothermal resource development.

The Legislature acted on the first recommendation during the 1970 session by passing AB 1247 (Briggs), adding the "Power Plant Siting Coordination Act" to the Public Utilities Code. Under this act, the Resources Agency was again directed to develop a plan indicating suitable locations for electric-power-generating facilities from an environmental standpoint, and to recommend the type of fuel to be used at each location. In drawing up this plan, the agency was directed to consult with the Public Utilities Commission as well as with the public and privately owned utilities. Originally, the plan was to be submitted by the fifth legislative day of the 1973 session. According to agency officials, however, it will probably not be ready until late this month.

AB 1942 (1970) also added a chapter on power plant siting to the Public Resources Code, using language similar to the earlier state policy on thermal power plants. This law stated that the location and operation of thermal electric power plants shall enhance public benefits and minimize adverse effects on the ecology of the land, water, and wildlife. It also declared state policy to be to encourage use of nuclear energy, geothermal resources, and other energy sources that may help conserve limited fossil-fuel resources and promote cleaner air. But, more importantly, the new law stated: "It is the policy of the state to encourage planning by the state's electric utilities toward [these] objectives and to assist the utilities in their evaluations of the effects on the environment of proposed thermal power plant sites, and to that end a State Power Plant Siting Committee has been established to effect such coordination with the utilities . . . ." In fact, however, the siting committee now exists only informally, lacking legislative authorization for such responsibilities.

Public Utilities Commission

Another state agency with important powers in this field is the Public Utilities Commission, which regulates the privately owned gas, electric, water, and communication utilities. PUC jurisdiction includes authority to set rates and regulate the utilities' equipment, levels of services, safety standards, and business practices. Its powers do not extend, however, to publicly owned utilities, such as the Sacramento Municipal Utility District and Los Angeles Water and Power.

Under the provisions of the Public Utilities Code, private utilities must obtain from the commission a certificate that the present or future public convenience and necessity require or will require construction of any proposed new generating facility. Before awarding such a certificate, the commission must give consideration to community values, recreational and park areas, historical and aesthetic values, and the potential impact on the environment. In addition, every private electrical utility must file annually a report of its 10-year forecast of the demand for electrical power in its service area and of its generating capacity. Every two years, each must file 20-year forecasts of loads and capacity.

Last April 3rd, the commission adopted a statement of objectives, criteria, and procedures for evaluating environmental impact reports as required by the state's Environmental Quality Act of 1970 (as amended in 1972). The PUC held public hearings on the subject in February and March to explore, among other things, the question of whether the law requires preparation of environmental impact reports (EIR) in connection with rate proceedings. The commission finally decided that a rate proceeding was not a "project" as defined by law and, therefore, would not require an EIR, even

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State Agencies and Energy

The following is a listing of state agencies with substantial responsibilities related to energy supply and demand, together with a brief statement of those responsibilities:

Public Utilities Commission. The five-member Public Utilities Commission regulates privately owned gas, electric, water, and communication utilities within the state. It has authority to set rates, approve equipment, determine levels of service, set safety standards, and prescribe business practices for the utilities. The PUC must issue a certificate of "convenience and necessity" before regulated utilities can construct more facilities.

State Lands Commission. Composed of the Lieutenant Governor, State Controller, and Director of Finance, the State Lands Commission is responsible for managing all state-owned lands, including tidelands and off-shore lands. Among other things, it is responsible for leasing and development of tide and submerged lands for oil, gas, and geothermal extraction. It carries out its responsibilities through the **State Lands Division** of the Department of Conservation.

Resources Agency. The Resources Agency, headed by the Governor's Secretary for Resources, is the highest level state agency in the field of resources management and environmental policy. Under it are the departments and boards responsible for water resources, conservation, solid waste management, air pollution control, etc.

Division of Oil and Gas. This division of the Department of Conservation is responsible for supervising the exploration and exploitation of oil, gas, and geothermal resources throughout the state.

California Coastal Zone Conservation Commission. The coastal commission and its six regional commissions was established, following voter approval of Proposition 20 on the November 1972 ballot, to draw up a land use plan for the coastline. While it is preparing this plan, it has full authority to approve or reject all proposed new development, including the location of new power plants, in the territory under its jurisdiction.

Office of Planning and Research. This office was established in 1970 to serve as the Governor's long-range planning staff and to prepare and update a report on state environmental protection policies and objectives. Its report presumably will deal with matters related to the supply and demand for energy (power plant siting, energy transmission, residential and commercial development, etc.) as well as other factors.

though the other policy provisions of the environmental act do apply. "The commission will consider potential environmental impact in rate matters," it said, but only when "such issues are brought to light by the staff or other parties." However, in other cases, the commission said, an EIR "must be considered by the commission prior to its approval or disapproval of a project." Included were proceedings involving issuance of certificates of public convenience and necessity for construction of power plants and transmission lines, and extensions of water systems. The EIR is to be prepared by the commission (but paid for by the utility) based upon a review of an "environmental data statement" to be supplied by the proponent of the project.

State Lands Commission

A third state body with an important role in this area is the State Lands Commission. It is responsible for the management of state school lands, tide and submerged lands, and swamp and overflow lands, and has the authority to sell state school lands, provide for the extraction of minerals, oil, and gas from all lands in its custody, and administer tideland trusts granted by the Legislature. The commission is made up of the Lieutenant Governor, State Controller, and Director of Finance, and staff support is provided by the State Lands Division of the Department of Conservation.

The commission and its responsibilities regarding offshore petroleum development became the subject of public debate when a well in the Santa Barbara Channel blew out in January 1969. In February, the commission imposed a moratorium on drilling new wells on state-owned offshore lands that remains in effect today. Few people realize, however, that the Santa Barbara blowout occurred on land under federal, rather than state, jurisdiction. State jurisdiction, as determined by the U.S. Supreme Court in 1966, extends to approximately three miles from shore. Federal jurisdiction takes over from there.

According to commission records, more than 1,200 wells have been drilled on state-owned lands in the last 30 years without a major blowout. Nevertheless, in 1970, the Legislature added a provision to the Public Resources Code limiting leases in the Santa Barbara Channel. This provision says: ". . . no leases shall be let for the extraction of oil and gas from coastal tidelands or submerged lands in state waters within the Santa Barbara Channel unless the commission determines that such a lease will not result in the seepage or spillage of oil (either by finding that the safety and containment devices to be used are sufficient to prevent such seepage or spillage or that no seepage or spillage would result in any event) or in the destruction of scenic or aesthetic values."

Within the last month, two of the three commission members, Controller Houston Flournoy and Lieutenant Governor Ed Reinecke, both Republican gubernatorial candidates, have said they would consider lifting the ban on offshore drilling to increase the state's supply of oil, if the oil companies can demonstrate that they now have the technology to contain a blowout or seepage. This, of course, is what the law provides. The commission will probably hold a hearing later this year to determine what progress the oil companies have made.

Legislative studies

In April 1970, Assembly Speaker Bob Monagan, acting as Chairman of the Assembly General Research Committee, requested the Assembly Science and Technology Advisory Council to advise the Legislature on both short- and long-range issues related to meeting California's future power requirements. The council responded by creating a Panel on Energy Planning and Programs. Since then, through the panel's efforts, the council has released a number of reports on this subject. One of the first of these, *Meeting the Electrical Energy Requirements for California,* was issued in June 1971. The report focused on the demand for additional electrical energy, but it also noted the need to

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consider other factors as well. "It is vitally important that the legitimate energy requirements of the state be met," the report said, "but it is also important that this be done in a way that minimizes the detrimental effect on (or actually improves) the environment and ecology of the state, that conserves our fuel resources, and that assures adequate public safety."

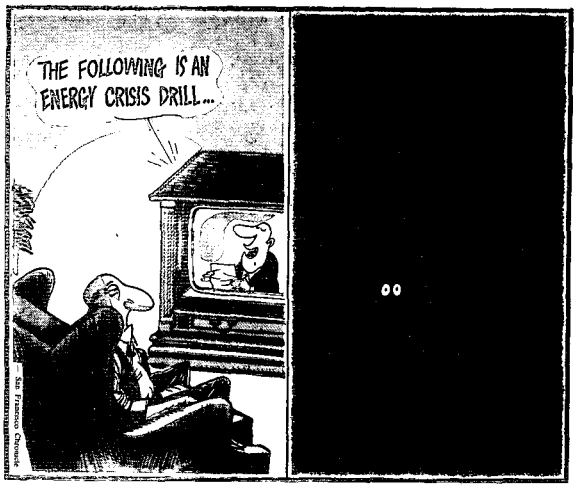
The report advanced five major recommendations:

1. The state should encourage the use of nuclear and other relatively non-polluting energy sources in preference to fossil fuels to meet its future electric-power needs.
2. Comprehensive land, water, air, and energy use considerations should determine power plant siting, and siting authority should reside in a single agency.
3. A State Energy Conservation Commission should be formed to seek methods of meeting legitimate energy needs while reducing energy waste.
4. Both a use tax and increases in basic electric rates should be considered as means of financing research and development in new sources of energy, research needed for power plant siting, and related matters of energy policy administration.
5. State agencies should work closely with their federal counterparts to arrive at sound practices in energy production and management.

These recommendations are quite similar to those advanced in subsequent studies and incorporated in proposed legislation this year.

Most of the legislation that has been considered in the past three years dealt almost exclusively with the problems of power plant siting. For some time, the private utilities have complained that they must deal with at least 30 federal, state, and local agencies in gaining approval for location, design, and construction of new power plants. For example, AB 818 (Briggs) in 1970 would have authorized the Power Plant Siting Committee to review all proposed sites before their submission for PUC approval. On the other hand, AB 2563 (Warren) in 1971 would have established the State Power Facility Siting Commission as the single state agency with authority to approve new sites and facilities. Five power plant siting bills were introduced in 1972, but all ended up in the Assembly Planning and Land Use Committee, which took no action on them because it was awaiting completion of studies by the Rand Corporation that it had commissioned a year earlier. Two unsuccessful Senate bills, SB 1195 (Nejedly) and SB 1310 (Alquist) would also have established a single power plant siting authority.

Last year, interest in a broader range of energy questions began to intensify as the energy problem itself became increasingly apparent. In October, the Joint Committee on Atomic Development and Space issued its final report, calling for development of a state energy policy. "The California Legislature should take a strong lead in establishing an energy policy for California," said the committee. "A committee on energy should be established within the Legislature. It should be the responsibility of this committee to review existing fuel and energy policies and practices within the state in an unbiased manner, unencumbered by any agencies who have the responsibility for the promotion and development of specific energy sources. This committee should have an additional specific direction of reviewing and participating in the formulation of any



national energy policy to insure that the unique requirements of California are satisfied. Ultimately, the committee should have the responsibilities for drafting an energy policy for California."

Also in October of 1972 came the release of two reports by the Rand Corporation: *California's Electricity Quandary, II: Planning for Power Plant Siting,* and *III: Slowing the Growth Rate,* commissioned by the Assembly Planning and Land Use Committee with funding support from the National Science Foundation. (*California's Electricity Quandary, I: Estimating Future Demand,* had been released in September. For a summary of the findings reported in all three reports see page 192.)

Then, in November, the voters approved Proposition 20, creating the California Coastal Zone Commision and six Regional Coastal Zone Commissions to draw up a "comprehensive plan for the orderly, long-range conservation of the coastal zone" to be submitted to the Legislature by December 1975. In the interim, all development, including siting of new power plants, within the permit area (1,000 feet from above mean high tide to about three miles out to sea) must be approved by the appropriate regional commission. Before permits can be issued, the regional commission must find that the development "will not have any substantial adverse environmental or ecological effect" and that it is consistent with the general objectives of the coastline legislation.

Ironically, Resources Secretary Norman Livermore Jr. chose an orientation workshop last January 12th for the newly appointed state and regional coastal commissioners to announce abandonment of the state's Policy on Thermal Power Plants. The reason, he said, was that dramatic advances had occurred in the area of environmental protection since the policy was first announced in 1965 — including the passage of the California Environmental Quality Act of 1970 and subsequent legislation requiring environmental impact reports for private activities regulated by government. Livermore said that the Power Plant Siting Committee, originally set up to carry out the power plant policy, would remain in existence to provide liaison between the utilities and interested departments and boards of state government. (The Resources Agency has not entered into any "statements of understanding" or "agreements" since 1971, and says that it will not until authorizing legislation is enacted.)

In the meantime, the Assembly Committee on Plan-

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In the past year, three major reports have been published regarding California's future energy demand and supply. The first was compiled by the staff of the Public Utilities Commission from utility industry reports and dealt with recent and projected demand for energy according to industry data. The two other reports were prepared by independent research organizations — one by the Rand Corporation at the request of the Assembly Committee on Planning and Land Use and the other by Stanford Research Institute for five public and private electric utilities. All three reports have received considerable attention in the press.

PUC report

In July, 1972, the Electrical Branch of the Utilities Division of the Public Utilities Commission issued a report stating that California could expect an energy shortage and insuffficient service by the mid-1970's if steps were not taken immediately by the Legislature and various public agencies to make possible an increase in the supply of electricity. The report was based on 10-year and 20-year forecasts of loads and resources submitted by the privately-owned utilities in accordance with a PUC requirement. According to the projections of the PUC's staff, the state's electricity energy demand would reach 35,700 megawatts in 1976, 48,000 megawatts by 1981, and 89,200 megawatts by 1991. The report noted that while gas was the greater energy source for the generation of electricity in 1972, it would not remain so. "In view of the probable continuing decline in the availability of gas in the latter part of the decade," the report went on to say, "oil will be the dominant energy source. This presents a critical supply problem to California electric utilities. Delays in placing nuclear and out-of-state, coal-fired plants in service could make this supply problem even more severe."

In general, the report urged that the utilities undertake long-term planning of their fuel needs, there be a rapid expansion of nuclear power generating facilities, and a reduction in delays in the approval of sites for new generating plants.

Rand reports

The report prepared by the Rand Corporation of Santa Monica is actually three separate reports issued in September and October of 1972 under a single common title: *California's Electricity Quandary*.The first of the three, *Estimating Future Demand,* was prepared for the Resources Agency of the state with support from the Natural Science Foundation. The other two,

Three Reports, Two Views:

Planning for Power Plant Siting and *Slowing the Growth Rate* were prepared for the Assembly Committee on Planning and Land Use. As suggested by their titles, each of three reports dealt with aspects of a single problem — the conflicting demands of energy production and environmental protection.

The principal findings and conclusions of the Rand studies were:

1. Future demand for electrical energy is expected to fall well below what might be anticipated from extrapolation of past consumption. The use of appliances and equipment that consume less electricity and changes in the industrial base will result in a slower rate of increase.
2. Policies intended to reduce the demand for electricity by raising its price are likely to have an important effect on the use of electricity by the commercial and industrial sectors.
3. The state should adopt policies to encourage the voluntary conservation and more efficient use of electricity, increase its cost to consumers, increase the costs of electrical equipment, and prohibit or restrict the use of electricity in certain applications.
4. The state should establish a power plant siting agency with sufficient power to prevent delays or arbitrary actions by state or local government from interfering with an orderly process of site selection.
5. Systematic, long-range planning by the state is essential to the resolution of problems on power plant siting.
6. Early and continuous public involvement in power system planning is essential.
7. The potential benefits of slowing the growth of electricity demand are significant. A three-percent growth rate would require about 23 new 1200 megawatt power plants between 1970 and 2000, as compared with an additional 123 if the rate is not slowed.
8. Potential ways of slowing the growth in the demand for electricity include: the substitution of gas for electricity in many residential and commercial uses; increased use of solar heating; better thermal insulation of new structures; increased efficiency for air conditioners; and reduction of electricity requirements for lighting.

ning and Land Use appointed a Subcommittee on State Electrical Energy Policy to receive and conduct hearings on the two Rand reports it had commissioned. Among other things, the Rand reports stated that interactive planning among the utilities, state and local agencies, the Legislature, and citizen groups was essential to the orderly development of electrical energy to meet California's needs. In this spirit, the subcommittee scheduled four days of hearings in February on the Rand findings and conclusions, and mailed questionnaires to the utility companies, state and local agencies with responsibilities in this area, environmentalists, and others, soliciting their views. The hearings, which were extended to six days, dealt with these basic questions:

- What are California's electricity supply-and-demand characteristics, past, present and anticipated through the year 2000?
- What are the consequences of pursuing our present policy of "demand accommodation" over the next 30 years?
- Are these consequences acceptable, or are there state policies that should be adopted to reduce the undesirable consequences?
- What specific measures, if any, should be adopted to reduce the growing demand for electricity, and what impact would adoption of these measures have on the state's economy and living standards?
- What agency or agencies, if any, should be as-

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PUC, Rand, and SRI Studies

9. Reducing the growth rate would help alleviate future environmental problems, and if accomplished gradually in the ways suggested, would not have an adverse affect on the economy.

10. The Legislature should evaluate California's future electricity supply options, including a reassessment of the state's commitment to rapid growth of nuclear power and an examination of ways to accelerate environmentally acceptable development of the geothermal potential of the Imperial Valley.

10. The Legislature should then make new institutional arrangements to ensure that demand growth targets are established and to coordinate all energy conservation policies.

SRI report

The Stanford Research Institute Study, commissioned by five of California's largest electric utilities (Los Angeles Department of Water and Power, Pacific Gas and Electric Company, Sacramento Municipal Utility District, San Diego Gas and Electric Company, and Southern California Edison Company), was directed at projecting the demand for energy in California over the balance of this century, the supply of energy from each major source, ways in which the projected demand might be altered, and probable future price trends.

The principal findings and conclusions of the SRI study were:

1. Although the energy resource base of the nation and the world is sufficient to meet long term demand, the nation does face an energy shortage that will last for several years.

2. California will experience a shortage along with the rest of the nation, but it will be less severe. The principal problem for this state will be the supply of gasoline, but there may also be a shortage of low sulphur fuel for industry and electric utilities which may in turn produce a shortage of electricity.

3. Energy prices will continue the rapid rise begun a few years ago, but after the end of this decade the price increase should be no greater than the rate of inflation. However, Californians will spend about the same share of personal income for energy at the end of the century as they do now (a much lower share than in other states because of the moderate climate).

4. Oil, gas, hydroelectric, and nuclear power will continue to be California's major sources of power. Geothermal and imported coal fired power will provide only a few percent of the total supply. Solar energy is likely to remain uneconomical for a long time but there should be no obstacles to its development. The nuclear power supply must be expanded to keep costs down.

5. There will be an inducement to conserve energy by minimizing its use through government controls, but such controls, if effective, would have "disastrous effects on the state economy" and "could lead to total government control." Gas will be in short supply so that there will be no justification for measures to replace electricity with gas for such purposes as space and water heating.

6. Gas prices should continue to be based on average cost, rather than volume of use (with higher prices for higher volume), because the demand is not responsive to prices.

7. The energy shortage during the next few years will require rationing, "but rationing is far preferable to imposition of minimum use standards."

8. Energy can be conserved by requiring better insulation of all new buildings (including attic insulation for homes) and establishing minimum efficiency standards for air conditioners.

9. If the low-sulphur fuel oil supply becomes inadequate, an easing of air-pollution-control standards (permitting the use of oil with a higher sulphur content) "would be preferable to a forced shutdown of industry and power plants."

It is readily apparent that the Rand and SRI investigators differ on a number of key points. The SRI report (like the PUC staff report) urged a rapid expansion of nuclear generating capacity and played down the prospects of obtaining benefits from solar and geothermal energy, while the Rand investigators urged a slow-down in nuclear power development and recommended steps to encourage exploitation of solar energy and geothermal reserves. The SRI report warns that any effort to restrict the use of electricity could have serious consequences for the state's economy, whereas the Rand researchers deny this. The Rand study says that higher prices for electricity would reduce its use, but the SRI report says that the use of electricity is not responsive to price changes.

signed responsibility for energy conservation, and with what powers, funding and specific responsibilities?

- What are the problems with our present power plant siting process?
- What measure should be adopted and what authority granted to provide for needed construction of generating capacity while protecting the environment and public health and safety?

Two additional reports on the energy problem were issued before the subcommittee concluded its hearings. In mid-1972, the administration began taking a greater interest in the whole energy question for California. Partly at the urging of the Division of Oil and Gas of the Department of Conservation, Resources Secretary Livermore submitted a memo to the Governor's cabinet asking: "Shall the Resources Agency be assigned the responsibility to coordinate the compilation of an inventory upon which a state energy policy can be developed?" The cabinet's answer, made in August, was yes. The result six months later was a 69-page report, *Energy in California Its Supply . . . Demand . . . Problems*. Surprisingly, the agency's report was issued without the customary press release and distribution of copies to the press, but was simply made available on request. Intended as an inventory of the state's energy supply and demand, the report nonetheless contained a summary statement of the problem confronting the state laying the blame largely on recent efforts

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to protect the environment. Said the report:

"Over the last decade, there has been inadequate concern for a continuing sufficient supply of our prime energy resources — oil and gas. Other forms of energy were likewise treated with indifference. Actions taken by federal, state, and local governments have, in effect, reduced our energy supplies. The offshore drilling moratorium on state lands, coastline petroleum sanctuaries, emission standards that reduce engine efficiency, and other restrictive measures, such as the recently passed Coastline Initiative (Proposition 20), have a serious influence on the State's energy situation."

The second report issued at this time came from the Panel on Energy Planning and Programs of the Assembly Science and Technology Advisory Council. Entitled *Considerations in Viewing the Role of State Government in Energy Planning and Power Plant Siting,* it discussed the problem of nuclear power safety, commented on the three Rand studies, and listed guidelines for a proposed State Electric Power Authority.

The new authority, the panel said, should have responsibility only for electric power and related issues, and it should not, at this time, attempt to deal with the entire range of energy issues. But it should have authority over both private and public utilities with specific responsibilities for assuring sufficient electricity to meet agreed upon forecasts, on the one hand, and reducing the per capita growth rate for electricity on the other. It would have three broad functions: regulation of siting generating plants and transmission facilities; development of conservation policy for the use of electrical power; and administration of research and development program on feasible conservation techniques and electric power problems peculiar to California (such as geothermal resources and seismic considerations).

Proposed legislation

In the past two months, the principal focus of attention has shifted to the legislative policy committees that now must consider the proposed new laws that have been written to implement the recommendations advanced in these reports. The first major energy bill of the 1973 session to be heard in committee was SB 283 (Alquist). The bill is similar to Senator Alquist's SB 1310 of last year. It creates an Electrical Power Facilities Siting Council to regulate siting of designated thermal power plants and electric transmission lines. The council is to have exclusive power to certify every plant or related transmission line except that such certification is not to affect the authority of the PUC as it relates to certificates of public convenience, the state or regional coastal commission, or the State Lands Commission regarding lands adjacent to any site. On May 1st, over the objections of privately owned utilities and the PUC, the Senate Public Utilities and Corporations Committee passed the bill out of committee by a 5-0 vote.

Another major bill AB 1575 carried by Assemblyman Charles Warren, is to receive its first hearing in mid-June before the Assembly Committee on Planning and Land Use (For a description of the provisions of this measure see page 195).

The Reagan administration has not yet played a major role in preparing legislation to deal with the State's energy problem. Lieutenant Governor Reinecke has indicated his interest in the subject, however, by convening a two-day Energy Workshop May 15th and 16th which was attended by 50 scientists and engineers, industry representatives, federal and state officials, and conservation spokesmen. The participants were divided into three subcommittees dealing with supply, demand, and policy implementation — a division that was reflected in the final report drafted by the workshop's chairmen and the subcommittee chairmen. On the matter of energy supply, the report recommended research and development on advanced systems to increase efficiency in electric-power generation; stepped-up development of offshore oil fields; immediate planning for the siting of deep-water ports and storage facilities for large oil tankers; greater application of secondary and tertiary oil-recovery techniques; and resolution of safety concerns about nuclear power to facilitate its development. The subcommittee on demand recommended a variety of short- and long-term measures for reducing the growth rate of electricity demand in the transportation, industrial, residential, commercial, and utility sectors. Two of the proposed methods of reducing demand were to divert gas-tax funds for rapid transit, and consideration of a restructuring of electric and gas rate schedules for the residential, commercial, and industrial sectors. The policy implementation subcommittee suggested that a study be made of the institutional arrangements of key regulatory and administrative bodies concerned with energy. It also recommended that the Governor create a California Energy Office to advise on energy matters and to deal with problems arising from an energy shortage. The Legislature, it said, should create an Energy Policy Council to determine a statewide energy policy and to draw up long-range plans for the development and use of fuel and energy in the state. It is not yet known just what Reinecke will do with the recommendations, or if the recommendations will become an administration legislative package.

Meanwhile, Assembly Speaker Bob Moretti, concerned that a threatened gasoline shortage this summer may be intended to give the oil companies justification for a sharp rise in prices, announced a three-way legislative investigation to get at the truth. First, he directed Assemblyman Warren's subcommittee, recently renamed the Subcommittee on State Energy Policy, to give particular attention to gasoline supplies. In addition, he directed the Assembly Transportation Committee to hold a series of hearings on fuel supplies and delivery, and he asked the Joint Committee on the Public Domain, chaired by Assemblyman Ken Cory, to look into the price of oil in the state "with particular emphasis on protecting the motoring public from capricious fuel-price increases."

Statement

"We must adjust our economy to the growing scarcity of natural gas; we need to import large volumes of foreign crude oil to meet our requirements; we must launch a major new effort to expand our output of nuclear power and coal; and, we must face growing problems in generating the enormous capital necessary to pay for our energy requirements."

Senator John L. Harmer
Republican Caucus Chairman

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An Assemblyman's View:

A Legislative Response to the Energy Crisis

BY ASSEMBLYMAN CHARLES WARREN

The energy problem in California, as elsewhere in the world, is a result of our dependence on certain fossil fuels, the current availability of which is inadequate to accommodate demand. These fossil fuels are oil and natural gas.

Perhaps the problem can best be understood by examining one of its aspects, which is electricity. At present, the bulk of electricity is generated either by hydrological generators or fossil-fueled steam plants. Our demand for electricity in California has been increasing by approximately eight per cent a year. This means that every nine or ten years, we must double our generating capacity. Thus, our present capacity of 35,000 megawatts must be increased to 70,000 megawatts by 1983 and to 140,000 megawatts by 1993 or soon thereafter.

To meet this demand, we are unable to increase hydrological generation for the simple reason there are no more feasible dam sites. Nor will we be able to rely on fossil-fueled generating plants for the equally simple reason that low-sulphur oil (which is required to meet air-quality standards) and natural gas are either not available or not available in the quantities required. The only presently known alternative means of electrical generation is nuclear energy. If we are to accommodate demand for electricity reliably forecasted for the year 2000, approximately one hundred nuclear generating units will have to be constructed in California alone. Yet, the wisdom of relying on nuclear energy for electrical generation, at least to the extent forecasted, has been seriously questioned. These questions pertain, among other things, to:

1. The reliability of an essential component of a nuclear reactor known as the emergency core cooling system.
2. The disposal or storage of radioactive nuclear waste, which has a toxic life of 250,000 years.
3. The security of the nuclear unit against external, hostile force.

These three considerations, which have not yet been satisfactorily resolved, all stem from the need to prevent exposure of radioactive elements to the atmosphere; failing that, widespread death and destruction could result. The only apparent rational way out of this dilemma is: first, to decrease the annual growth-rate for electricity (thereby reducing the number of nuclear units required); and, second, to rapidly expand research and development of alternative energy sources, such as geothermal and solar. This approach will require close and careful management of our electricity-oriented energy resources, but with such management we may yet be able to assure an adequate supply of electricity to all consumers without impairment of our life style.

Conservation measures

For example, mandating insulation standards in buildings would substantially reduce the amount of electricity needed for space heating and cooling. Such insulation would not result in significant costs to the consumer, as studies indicate that the cost of the insulation would be recovered in three to five years by resultant savings in electricity costs. Similar energy economies can be achieved by establishing a minimum level of appliance efficiency and converting from incandescent to flourescent lighting. On the former point, some air conditioners use twice as much electricity per unit of cooling than do others; on the latter, incandescent lighting has only 40 percent of the lighting efficiency of fluorescent lighting. These and other measures could reduce the annual eight percent increase in demand to three or four per cent. This reduction would mean that by the year 2000 we would need only 27 to 30 nuclear units rather than the forecasted 100. With a breakthrough in research and development, the number of nuclear units required could be even less.

Assembly studies

During the past two years, the Assembly Committee on Planning and Land use, chaired by Assemblyman Paul Priolo, has been concerned with problems related to electricity generation. It commissioned the Rand Corporation of Santa Monica to conduct studies of the problem's various aspects and organized a subcommittee on state energy policy. In October 1972, the Rand reports were delivered to the subcommittee and publicly released. In order to develop a consensus, lengthy interrogatories were prepared by the subcommittee and submitted to all California utilities, conservation groups and appropriate governmental agencies. All responded, and their answers were reviewed, compared, and collated. Thereafter, public hearings were held on those subjects on which the responses indicated disagreement. Witnesses, expert and lay, from throughout the United States appeared before the subcommittee and testified and submitted additional written evidence.

Following the hearings, legislation was drafted which is believed to be without precedent in the United States. This legislation is embodied in AB 1575, which is now before the Planning and Land Use Committee. The bill is known as the State Energy Resources Con-

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servation and Development Act. It specifies that:

- Electrical energy is essential to the health, safety and welfare of the people of California and that it is the responsibility of state government to assure that a reliable supply of electrical energy is maintained at a level consistent with the need for such energy for the protection of the peoples' health and safety and for environmental quality protection.
- The present rapid rate of growth in demand for electrical energy is in part due to wasteful, uneconomic, inefficient, and unnecessary use of power, and a continuation of this trend will result in serious depletion or irreversible commitment of fuels, land, and water resources and potential threats to California's environmental quality.
- Plannings for future electrical generating and transmitting facilities should be coordinated with state, regional, and local plans for land use, urban expansion, transportation systems, environmental protection, and economic development.
- There is a pressing need to accelerate research and development into alternative sources of energy and to improve technology of design and siting of power facilities.
- Prevention of delays and interruptions in the orderly performance of electrical energy, protection of environmental values, and conservation of energy resources requires expanded authority and technical capability within state government.

Base on these findings, the bill declares that the policy of this state shall be:

- First, to establish and coordinate within state government responsibility for managing the state's energy resources, for encouraging and conducting research and development into energy supply-and-demand problems, and for regulating electrical-generating and transmitting facilities.
- Second, to employ a range of measures to influence the rate of growth and electrical consumption in order to reduce wasteful, uneconomical, and unnecessary uses, prudently conserve energy resources, and assure statewide environmental, public-safety, and land-use goals.

To carry out these policies, the bill establishes the State Energy Resources Conservation and Development Commission to consist of five members appointed by the Governor, subject to the confirmation of the Assembly and Senate. The members of the commission shall be qualified in the fields of physical science, administrative law, biological ecosystems, economics, and natural resource management. No person shall be a member of the commission who during the two years preceding his appointment has received any portion of his income from any electrical utility or from any company that engages in the sale or manufacture of any component of any facility. Further, no member of the commission within two years following his departure shall be so employed or so engaged. The commission is also obliged to employ the services of a counsel to the commission who, among other things, is specifically charged with the responsibility of insuring that full and adequate participation by all interested groups and the public at large is secured in the planning and siting certification procedures set forth in the bill.

There are six major elements among the specific powers given the commission. They are: planning and forecasting, energy-resource conservation, power-facility certification, research and development, emergency powers, and the establishment of a Conservation and Development Fund.

Planning and forecasting

The first element, planning and forecasting, is premised on the belief that a primary reason why California finds itself in a potential crisis situation is its failure to develop statewide planning and forecasting capabilities. It is essential these capabilities be developed, not only to accurately measure demand and supply, but also to measure their consequences and the impact of remedial action. Accordingly, the bill proposes that the commission establish a common procedure for forecasting demand and supply for electrical energy to be utilized by both private and public utilities in their service areas. These forecasts will be made every two years and cover time frames of five, 10, and 20 years. Such forecasts will be set forth in terms of the number of additional facilities required and the type of the plants proposed, whether nuclear, fossil-fuel, or hydrological. In addition, such forecasts will be broken down into major demand sectors, such as residential, commercial and industrial. Also included will be a description of the population growth, urban development, and growth factors that are anticipated to influence increased demand for electrical energy.

When the commission has received the forecasts from the utilities, copies will be furnished the Legislature, interested state agencies and other concerned governmental and public bodies. Each city and county within the service area covered by the report will be requested to review and comment on its effects in relation to their master plans. Within three months thereafter, the commission will hold public hearings on the forecasts to secure the views and comments of interested and concerned public and private groups. Thereafter, the commission will examine the implication of the forecasts in terms of, among other things, critical environmental and other resources of the state; public health and safety; capital requirements for new facilities and costs to consumers; other significant factors relating to the provision of electrical energy in the amounts and in the manner proposed by the utilities. The commission is specifically empowered to consider alternative methods to those proposed by the electrical utilities to meet forecasted electrical energy requirements.

Within six months after the public hearings mentioned, the commission is to prepare a preliminary report setting forth its findings and conclusions concerning all aspects of the forecasts and their consequences. This report in turn will be disseminated for public and private comment.

Energy conservation

The second of the six elements is energy resources conservation. In this element of the bill, the commission is given general responsibility for conducting continued assessments of the opportunities and constraints presented by all forms of energy. Specifically, the commission is to develop the means by which wasteful, inefficient, unnecessary, or uneconomical uses of electrical energy may be reduced through pricing; improved housing design and insulation; restriction of promotional activities; improved appliance efficiency; and

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advancements in power geenration and technology. Based on its assessments, the commission is to recommend to the Legislature its proposals for state action to develop potential sources of energy and to reduce its wasteful and inefficient uses. In addition, within one year after the effective date of the bill, the commission is empowered to:

1. Prescribe minimum standards for lighting, insulation, climate control systems and other building design aspects which are economically feasible.

2. Prescribe per-unit energy requirement allotments based on square footage for various classes of buildings.

3. Prescribe minimum levels of operating efficiency for all appliances whose use requires significant amounts of electrical energy on a state-wide basis.

4. Prescribe minimum standards of efficiency that are technically and economically feasible for construction and operation of any new facility.

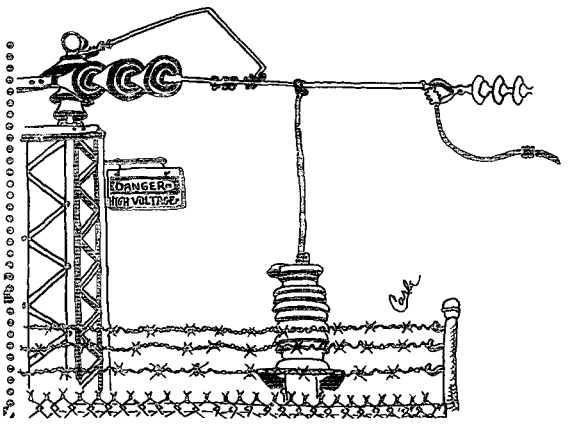
This is really the heart of the approach represented by this bill and represents the first time any governmental agency has recognized its responsibility to reduce the energy-demand curve. It is important to note that no specific rate of growth is recommended or set forth, leaving to the commission itself such decisions after it has had opportunity to acquire the detailed data provided in the planning and forecasting element.

New power plants

The third element of the bill concerns power facility certification. This element essentially establishes, "one-stop" siting procedure to be utilized by the utilities in locating and planning their facilities. It is expected that this will enable planners to utilize a shorter lead time in their deliberations. At present, a lead time of 12 to 14 years is required in the case of nuclear facilities, and the approval of at least 33 various governmental agencies. The commission will have responsibility for applying local, regional, and state regulations, laws and ordinances to sites requested by utilities. However, it will be authorized to waive any of the applicable rules, regulations, ordinances or laws upon a finding by it, after intensive public hearings and scrutiny, that the subject facility is required for public convenience and necessity and that there are no more prudent and feasible means of achieving such public convenience and necessity. This approach attempts to balance local control and demonstrated statewide needs.

The certification procedure is to be initiated by a utility filing a notice of intention with the commission. The notice will include at least three alternative site locations for each new facility, one of which must not be located in the coastal zone. The commission will then give public notice of the proposal and request appropriate local, regional, and state and federal agencies to make comments and recommendations regarding the design, operation, and location of the facility designated in the notice. Then, the commission will hold at least one public hearing in each county in which the facility or any part of it is to be located. Thereafter, the commission will undertake a review of all information obtained by hearings and other means and will issue its preliminary report on the alternative sites.

The preliminary report is to include the findings and conclusions of the commission with respect to all



of the following:

1. The degree to which each alternative site is in conformity with the forecast of electrical power demands and with applicable local, regional, state, and federal standards, ordinances and laws.
2. The relationship of each alternative site proposal designated in the notice or presented at a public hearing and considered by the commission.
3. The safety and reliability of the facility at each of the sites considered.

Upon filing the preliminary report, the commission will hold additional public hearings at which the findings and conclusions of the preliminary report are to be considered. The preliminary report will then be reviewed and a final report issued. It is vital that the commission find at least two sites acceptable and, if it does not, additional sites must be proposed by the applying utility. Any utility proposing to construct a facility must file an application for certification based upon the final report prepared by the commission on the notice of intention. The various aspects of the specific site will then be reviewed in public hearings before the commission issues its approval. Finally, the commission is empowered to monitor the construction and operation of the facilities it certifies.

Research, emergencies, funding

The fourth element of the bill, which concerns research and development, authorizes the commission to undertake the responsibility for accelerating research and development in a host of areas, but principally geothermal and solar resources.

The fifth element, providing for emergency powers, is designed to enable the state to prepare emergency load curtailment programs in the highly likely event that a sudden and serious shortage of electrical capacity occurs before the objectives of this legislation can be accomplished.

The final element consists of the Conservation and Development Fund, which will be financed by a surcharge of 0.2 of a mil per kilowatt hour on the cost of electrical power sold to the consumers in this state. The fund is to be subject to appropriation by the legislature for the purpose of carrying out the provisions of the bill as recommended or proposed by the commission.

As the author of AB 1575, my expectations for it may be suspect. However, I believe it to be an essential first step that must be taken immediately. If we fail to do so, what today is a serious problem will soon become a crisis indeed.

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A Utilities Spokesman:

Keeping Pace With New Energy Demands

By DAVID J. FOGARTY

From my perspective, both as an individual and a member of the management of a large electric utility, I believe we face an energy crisis. It is reality, not imagination.

Our civilization and economy differ from those of earlier times in one vital characteristic — the enormous amount of energy used by people. Most of that energy is derived by burning fuels. More and more of the nation's basic fuels, such as oil, natural gas and coal, are being converted into electrical energy. At present, 25 per cent of all fuels are used for generating electricity. By 1985, electricity will use an estimated 35 per cent of all fuels. Near the end of the century, the figure likely will exceed 50 per cent. The national demand for electricity is increasing annually about 7.3 per cent, and may continue to grow at that rate for another ten years, despite slowing efforts such as the conservative programs of many utilities.

The electric utility industry's ability to keep pace with the growing demand for new sources of generation has been seriously impaired by the emergence of a wide variety of concerns. These concerns have resulted in fundamental conflict between utilities seeking to meet the demand of their customers for electricity and those who question whether the side effects of electricity production may be too great a price to pay for the benefits obtained. Achieving the proper balance between meeting our present and future energy needs and protecting the environment and the health and safety of the public is one of the most serious and urgent challenges facing the Legislature, the regulatory agencies, industry, and the public in general. California utilities are finding increased difficulty in obtaining approval for needed power facilities, which is a major element in the overall energy problem. The situation is intensified by the growing competition for available land and growing concern for our air and water resources.

Projected requirements

The magnitude of the problem is inherent in an examination of the projected requirements for additional generating capacity for the next 20 years. At the end of 1972, the effective operating capacity of resources available to California utilities totaled about 32,000 megawatts. By 1991, this figure is expected to increase to approximately 105,000 megawatts of total resources. In terms of power plant site requirements, these figures reflect a need for 17 new generating sites and the expansion of several existing sites during the next two decades.

Of course, California utilities are prepared to utilize all available and practical sources of energy to meet these increased needs, including oil, gas, nuclear, hydro, coal, and geothermal. More than half of the new power plants to be constructed during the next 20 years are expected to be nuclear power, totaling 47,500 megawatts, or 59 per cent of all generating facility additions. Fossil-fuel plants, burning oil, gas or coal, with a total capacity of 17,500 megawatts, will comprise the second largest group of additions at some 22 per cent of the total. Hydroelectric additions will make up some 8,000 megawatts, about 10 per cent of the additions, while geothermal plants will add another 7,200 megawatts. The latter estimate is an approximation, subject to the results of developmental work being conducted today by all of the utilities.

In terms of my own company's problem, the figures show the magnitude and immediacy of our needs. At the end of 1972, the effective operating capacity of resources available to Southern California Edison totaled about 12,500 megawatts. Of the total, 10,000 megawatts were from thermal generating facilities. By 1991, these figures are expected to increase to about 40,000 megawatts total resources, of which about 35,000 megawatts will be from thermal electric sources, including geothermal. Translated into meaningful terms, these figures require six new generating sites by 1991, and authorization for expansion at several existing sites.

The immediacy of the situation is such that if added capacity is not available to the Edison system by 1975, our reserve margins will drop below the prudent 20 per cent level. If this situation continues, by 1976 our margins will be well below the 15 per cent level, and interruptions of service will be a near certainty. Such an occurrence can be prevented by the addition, in 1975, of added capacity at the existing Coolwater, Long Beach, and Huntington Beach sites. Each of these facilities will be combined-cycle units which utilize fossil fuels. Applications have been made to the Public Utilities Commission for certificates of public convenience and necessity for these additions. As a part of each application, a detailed environmental report has been prepared and filed.

Significant delays

In view of the number and complexity of remaining proceedings required for final clearances for the construction of these facilities, however, a mid-1975 operating date is becoming increasingly questionable. Unfortunately, our projections of generating capacity requirements are not accompanied by a projection of a regulatory system for the expeditious approval of siting proposals which would enable utilities to keep pace with the demands upon their systems. The current trend, in fact, appears to be one of increased delay in

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getting new generating facilities on the line. A number of factors contribute toward these delays, including technical problems associated with bringing new and larger facilities into operation. However, delays associated with various regulatory processes are becoming increasingly significant. The effect of these delays is a deterioration in the reserve margins available to electric utility systems. As these margins dwindle, there is a parallel erosion of electric system reliability.

Clearly, the Edison Company, as well as other utilities, are confronted with an impasse which will bear directly on the daily lives of the citizens of California. In addition to the rather obvious effect on reliability of service, these delays are felt by the consumer in other ways. The costs of power plant construction increase as the construction schedules must be expedited. These costs must be borne ultimately by the consumer. Disrupted planning schedules often result in utilities being forced to select alternatives which have shorter construction time. Generally, these facilities are fossil-fired, and have a higher operating cost and a greater environmental impact than the preferred alternative.

Legislation needed

In our view, recognition of this dilemma should be converted into meaningful legislation revising the power plant siting process. A properly conceived and implemented plant-siting procedure offers the potential of preventing the continuing recurrence of significant power supply problems in California. In order for a power plant siting procedure to operate efficiently, there are a number of basic principles which, in our view, must be included.

First, it is imperative that the responsibility and authority for certifying sites for electric power plants be consolidated into a single agency at the state level, because questions on siting of new, large-scale power facilities transcend local or regional interests in the state. The consolidation of authority must be both horizontal and vertical. This amalgam of authority should enable utilities to obtain approval for a power plant site by going to one agency at the state level without the need for separate proceedingss for review and approval by the various other state, regional or local agencies concerned with environmental protection and resource use. This should enable the siting agency to resolve conflicts or, if necessary, exercise pre-emptive power over other agencies of government whose actions would otherwise constitute a veto of a power plant site proposal. It is our opinion that the establishment of this single authority will eliminate the fragmentation which has characterized the existing siting process and proven to be its most serious deficiency.

A workable siting process must also provide that all siting issues are resolved by the appropriate power plant siting agency in a single proceeding and in a timely manner. Ideally, the process should provide that the judgment of the certifying body will be conclusive on all environmentally related questions involved in siting, including land use, air and water quality, and aesthetics. During this proceeding, each interested agency and the public can participate through submission of comments regarding the Environmental Impact Report, and through the presentation of evidence at public hearings. The decision reached as the result of this proceeding should bind all state, regional, and local agencies that might independently seek to hear the same issues.

The one-stop proceeding should serve to supplement existing mechanisms provided by the California Public Utilities Commission. The PUC should continue to be responsible for certifying the long-range forecasts of electric utilities provided under General Order 131. These forecasts provide the basis for determining future power plant capacity requirements. The power plant siting authority should be made clearly responsible, however, for certifying sufficient power plant sites to meet these long-range capacity requirements. Sufficient sites should be certified to provide a margin to cover unexpected contingencies.

It is at this point in the siting process that the public need for essential electric service must be balanced with the need to preserve important resources and environmental values. The agency should review all potential plant sites proposed to it, coordinate requirements for land use and environmental studies, review results and approve or reject proposals. From this procedure there would evolve workable guidelines for the evaluation of sites and, in due course, an inventory of sites from which to draw when new generation is needed. This process should not require an extensive evaluation of the need for a specific project since this determination would be made later.

When the utility determines that new capacity is needed, application should be made for approval of the construction and operation of a specific generating facility. The project might be for additional generating facilities at an existing site, but within the certified capacity of the site, or for new facilities at a previously undeveloped site which has been approved by the power plant siting authority. Consideration of such approval would include a comprehensive review of the need for the precise scheduling of the operating date for the facility. We believe the Public Utilities Commission's certificate of public convenience and necessity is the appropriate mechanism to accomplish this review.

Properly implemented legislative measures containing these principles can provide appropriate consideration of all relevant factors and at the same time assure sufficient power plants to meet the public needs.

A Slight Difference of Opinion

On May 22nd, according to an AP report, Governor Reagan told a group of high school students, "The possibility of brownouts in California, as they've had recently on the East Coast, is very real." He went on to say, "So many people in California have concentrated so much on environmental protection there have been no power plants built. We won't let them build fossil fuel plants, and when we build nuclear power plants along the coast we're told we can't have those because that might be a threat and might hurt the ecology of the ocean."

Two days later, Reagan's Secretary for Resources, Norman B. Livermore Jr. told a reporter for the *Riverside Press-Enterprise* that he knew of no basis for the Governor's statement. "There is probably less chance of brownouts in California than anywhere else in the country," Livermore was quoted as saying. He also stated that, in his opinion, earthquake hazards had more to do with halting construction of nuclear power plants at Bodega Head and Point Arena than the protests of environmentalists.

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The Conservationist's View:

Power vs. Environment Is the Issue

By WILLIAM H. PRESS

Two years ago, Americans scoffed at a book called *Limits to Growth*. Written by a Massachusetts Institute of Technology research team, its basic thesis was: our economy cannot continue to expand at its present rate without exhausting the earth's limited resources. It was a concept that won little acceptance in America, where growth is king and progress, whatever the price, is still our most important product.

Today, we are no longer laughing at *Limits to Growth*. We are experiencing them. As if to underscore the credibility of the MIT study, the crunch is being felt first at the very heartbeat of America's "cowboy economy": the power industry — responsible for providing the energy to run America's bulldozers, light and cool her massive new buildings, perpetuate the proliferating automobile. For the first time in our history, America's mushrooming demands for energy have begun to outrun our available, or reserve, energy supplies. We are running out of gas (or electricity), it seems, and the only solution lies in massive "environmental trade-offs": a pipeline across the Alaskan tundra, offshore drilling, nuclear power plants on the coast, deep-water ports, strip-mining the West.

Environmentalists skepticism

This phenomenon — variously called the energy crisis, the energy crunch, or the energy pinch — is a splendid offensive mounted by the power industry. Not surprisingly, it is viewed with some skepticism by environmentalists, and for several reasons. First, the so-called shortage is based on industry's own projections of U.S. energy needs by 1985, or the turn of the century. These projections are obviously weighted in favor of an accelerated growth rate and industrial expansion, but they are seldom questioned by the nation's regulators — the Federal Power Commission, the Atomic Energy Commission, or the California Public Utilities Commission. Historically, these agencies have done little more than package utility projections and publish them as their own: a process now known in Sacramento as "demand accommodation". Until there is some independent method of forecasting energy needs, we will never know whether or not there is an energy shortage, nor how great it really is.

Second, the pressure for rapidly expanding our energy facilities comes from an industry that has, in the past, led the field in befouling America's air, land, and water. Fossil-fuel plants are the single greatest stationary source of air pollution, producing nearly 30 per cent of the particulates in the air of our cities; 67,000 ugly miles of overhead transmission lines scar the face of America; by 1980, power generating plants will consume one-sixth of our nation's fresh waters, pouring it back at boiling temperatures into our streams and lakes. The freeway and the automobile strangle and choke our cities, while the oil industry continues to block efforts in California and across the nation to free gas tax revenues for mass transit. Nor is one likely to forget that the nation's environmental conscience was formed three years ago in Santa Barbara, by an oil spill.

Third, today's power projections fail to take into account the effect of industry's promotional activities on energy demands. It may be impossible to calculate that effect with any degree of accuracy, but it must be considerable. As late as 1970, the nation's utilities were spending $375 million on advertising and sales — eight times what was spent on research and development. Each month our utility bill is colorfully cushioned with flyers promoting more and more electrical appliances. Every driver on the freeways knows that "gas starts fast, gas stops fast". As late as last year, the Sacramento Municipal Utility District was advertising on television:

> "The power of tomorrow is here today . . . Flamelss power — fresh and clean Electricity makes the modern scene. It warms your house and heats your water, Dries your clothes and cooks so great . . . Better living at SMUD's low rate!"

The electric and gas utiilties are not alone in trumpeting the use of more energy. In fact, they are probably outdistanced by the oil industry, which uses every device imaginable — from toys to glasses to ski tickets to trading stamps — to lure customers to the pumps. Add to these practices today's highly promotional utility rate structures, and it is clear that much of our insatiable appetite for power has been created by the power industry itself.

Finally, there is the delicate matter of timing. It is difficult to conceive how so serious a gasoline shortage could have arrived so suddenly, without warning, unforeseen by even the industry's scientists and economists. In a recent *San Francisco Chronicle* column, Art Hoppe wrote of the shortage: "It's one of the luckiest discoveries in the history of the oil business. They discovered it just when there's a fight over the Alaska pipeline, a battle in Congress over new oil drilling allowances, a struggle with the Administration to raise gas prices, and a running war with ecologists over off-shore rigs and oil spills. You can't get much luckier than that." All of these reasons give the environmentalist pause when the industry cries "wolf".

This is not to deny a very real problem of energy demand *vs.* energy supply. It is to question the extent

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of the problem, and to condition the environmentalist's approach to its solution.

State role

There is no doubt that state government must take the lead in resolving California's energy problem. Leadership will not come from Washington. The President's long-awaited energy message was a disappointing ratification of industry demands for more economic incentives and less regulation. Congress, meanwhile, is busy addressing the limited question of power-plant siting and hasn't begun to discuss energy conservation. In Washington recently to become familiar with proposed federal energy legislation, I was told candidly by a prominent Senate consultant: "Go back to California and write an energy conservation bill we can use as a model next year." Nor is leadership going to come from industry, which, left to its own devices, has been unable to distinguish need from greed.

The state, then, must act. The Planning and Conservation League has proposed a very definite plan of state action — much, but not all, of which has been incorporated into far-reaching energy legislation recently introduced by Assemblyman Charles Warren. We have recommended the creation of a California Commission on Electrical Energy. The five-man state commission would have full authority in the field of electrical energy. Specifically, it would be charged with: defining a state energy policy; evaluating California's future energy needs; adopting measures to slow down energy demands; conducting a research and development program into new sources of energy; and approving the siting of electrical generating and siting facilities. The work of the commission would be financed by an electricity surcharge of .1 mil per kilowatt hour, added to the consumer's bill. This same funding mechanism has been successfully adopted by the state of Maryland. In California, it would generate more than $12.2 million annually and cost the average family about 75 cents a year. Although the commission's responsibility would be limited initially to electrical energy, its jurisdiction could (and, one hopes, would) be expanded in the near future to include all forms of energy.

This approach, we feel, represents a responsible solution to the energy problem, balancing energy conservation against an admitted need to guarantee future energy supplies. Through its energy commission, the state should direct its immediate attention to the following areas, in order of priority: energy waste; energy conservation; energy research; and energy supply.

Waste

I learned recently that the word "gringo" has been replaced in the Spanish language by "gastador", meaning "waster". The term fits. We Americans are notorious wasters of everything, but particularly of energy. We simply are not energy-conscious. We leave lamps burning, faucets running, design airtight buildings, fail to insulate homes properly. With a bare six per cent of the world's population, we consume 33 per cent of the globe's energy — and waste fully 50 per cent of all the energy we burn. Clearly, we must begin solving the energy problem by attempting to reduce waste, particularly in industrial plants (including power plants) where 40 per cent of America's power is consumed with a tremendous heat loss. A recent National Science Foundation report, for example, concludes that industry could reduce its energy consumption by 30 per cent with heat recovery devices and better thermal management. Gerald L. Decker, Vice President of Dow Chemical Company, estimates that we can save up to 40 per cent of industry power demands by better planning.

Most wasteful of all is the automobile. The internal-combustion engine has never been more than 25 percent efficient, a rating further crippled by larger engines, higher speeds, air conditioning, and air-pollution control devices. It is contradictory to speak of gas and oil shortages without making a state commitment to smaller, more efficient automobiles where necessary, and to mass transit wherever possible.

Conservation

Along with efforts to reduce waste must come a vigorous state program to slow down the energy growth rate. Electrical energy consumption in California has grown over the past 30 years at an alarming rate of eight percent per year, doubling every decade. That is more than five times as fast as population growth, and we are already using five times the amount of energy per capita as such nations as France and Germany. California's projected energy needs are even more startling. The Public Utilities Commission, again reflecting the planning of California's five major utilities, estimates state energy needs in the year 2000 as 848 billion kilowatt hours, an increase of 70 percent. Meeting this need would require the construction of 127 new power plants.

Conservation offers an immediate, easy-to-implement, and inexpensive means of reducing those demands. Writing in the *San Jose Mercury*, environmental writer Tom Harris observed: "The most overwhelming advantage of conservation is its instant impact on the supply crunch. No long lead-time is involved. No massive outlay of money is needed. In fact, reducing power use is the only solution society can find that won't cost a dime." Conservation can also be effective. In its 1972 report to the California Legislature, the Rand Corporation concluded that energy conservation measures could reduce projected electricity use in the year 2000 by as much as 50 per cent, eliminating the need for more than 80 fossil-fueled and nuclear plants. Energy conservation measures proposed by Rand and other energy experts include: better thermal insulation in new structures; design of more efficient appliances, especially air conditioners; reducing electricity requirements for lighting; substitution of gas for electricity for heating and cooling, cooking, clothes-drying, and water-heating purposes; eliminating pilot lights on new gas appliances; and construction of "low-energy" buildings.

Another vital element in energy conservation is a reexamination of present rate structures. The price of energy, like the price of any other commodity, has a direct relation to the amount of energy consumed. Present rate structures encourage, rather than discourage, use by rewarding the larger consumer with a lower energy price per unit. In other words, he who uses more, pays less. This has led to the charge that utility rates are both discriminatory and promotional. Discriminatory, they are. Residential customers, and poor people in particular, bear the brunt of utility pricing. In Sacramento, for example, the poor family living in the inner city and using approximately 130 kilowatt hours of electricity per month pays a rate of 4.2 cents per kilowatt hour. A suburban family with its

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all-electric home, using approximately 1,300 kilowatt hours per month, pays 1.9 cents per kilowatt hour. Industrial customers pay less than one cent per kilowatt hour. Promotional, they are, also. Included in the recent findings of a Cornell-Oak Ridge energy study team is the conclusion that the price of electricity is the most important determinant of growth in electricity use for all types of consumers. Similarly, U.C. Davis studies have shown that the price of gasoline is the major determinant in gasoline consumption, a conclusion we may have an opportunity to prove this summer.

More research may be needed to determine how effective pricing is in reducing energy demands, but certain changes in rate structures definitely merit state attention:

- reversing price schedules, so that all consumers pay a fixed rate per unit;
- reflecting social and environmental costs, not just the cost of providing service, in determining energy prices;
- levying surcharges for supplemental power demands during peak-load hours;
- reducing or eliminating federal and state subsidies to the gas, oil and electric industry.

Conserving energy waste and reducing energy demands are the two most important and most immediate goals of the state's energy program.

Research

As I have already stated, the power industry has devoted little money to research and development programs. There is a compelling need, then, for the state to fund and direct its own research program, with particular attention to attractive new sources of energy. Both solar and geothermal energy are proven sources of power, and they are clean, available, and abundant. Subterranean steam, or geothermal, deposits have been used for decades to generate electricity in New Zealand, Italy, Japan, and Iceland. In California, the state's only operating geothermal field is the Geysers, in Sonoma County. Significant, and as yet untapped, geothermal reserves underlie the Imperial Valley in Southern California. The estimated potential of this field is 30,000 megawatts — roughly the equivalent of California's total present electrical capacity.

Solar energy has an even more exciting potential, though the state of the art is less developed. Solar energy is used today for cooking and heating in Israel, and has been a major source of power for our space exploration program. A NASA report released in March 1973 states that by the year 2020 solar energy could provide 35 per cent of heating and cooling in buildings, 30 per cent of the nation's gaseous fuels, 10 per cent of its liquid fuels, and 20 per cent of all electrical needs. Of course, some method must be developed for collecting the sun's rays and storing their energy until needed by the consumer. This is well within our engineering skills, but it will cost money. NASA recommends a 10-year, $100 million research program to make solar heating and cooling equipment available for commercial purposes, in contrast to the $5 million now being spent on solar energy research.

The state must also move to facilitate the process for siting refineries, ports, power plants, and transmission lines. Today's disorderly system, whereby as many as 40 independent permits are required from as many independent government agencies, works to no one's advantage. As proposed by PCL, the state energy commission — working closely with local government and the state's air and water boards — would have full and final authority in siting decisions. This "one-stop shop" is a great concession on the part of environmentalists, but it is a price we are willing to pay for reducing energy demands. The problems of siting becomes secondary when placed in the hands of a state commission charged first and foremost with the responsibility of energy conservation. For the same reason, we find pending federal legislation, which seeks to resolve siting problems independently of a conservation ethic, totally unacceptable.

Leaving the most explosive issue to the end, a word about nuclear power. There have been serious questions raised about the safety of nuclear power plants. These concerns center around the effectiveness of the emergency cooling systems, designed to prevent escape of radiation during a reactor breakdown, and the method of disposal of highly toxic nuclear waste. These are very valid questions which, to my knowledge, have been left unanswered. Certainly, they were not satisfactorily answered by representatives of the AEC who testified last February before the Assembly Subcommittee on Energy Policy. Nuclear industry spokesmen acknowledge the problems, but contend that our technology can solve them, in time. Meanwhile, they say, let us proceed to build more nuclear plants — an attitude that might be compared to sending astronauts into orbit before recovery techniques have been perfected.

Nuclear power may well be the power of the future, but public health and safety demand that we proceed no further with nuclear construction until we know the answers to these basic safety questions.

Conclusion

I have sketched an ambitious program for the state to undertake: the creation of a strong energy commission with broad planning, policy-making and regulatory powers. A state commitment to energy conservation. The Planning and Conservation League feels that, given the magnitude of the energy problem, nothing less will do. More than in any other issue facing the Legislature, we are making decisions here that will vitally affect the quality of life in California over the next hundred years. A wiser, more prudent use of power may be the key to preserving the life-style enjoyed by Californians, while permitting continued reasonable development.

It is an awesome task, but not one that surpasses human capacity. After all, this is not man's first energy crisis. There was at least one other, early in the history of the world. That energy crisis was forecast, not in full-page newspaper ads, but in the dreams of the king of Egypt. His dream was a happy one of seven fat cattle grazing, until seven lean cattle arrived and devoured the seven fat cattle. Joseph, a young Israeli slave, told Pharoah that his dream predicted seven years of plenty, to be followed by seven years of dreadful famine. Egypt, Joseph warned, must conserve grain during the next seven years in order to survive. No doubt there were then, as there are now, other voices raised. But Joseph's advice prevailed. Under his stewardship, the Egyptians carefully managed their resources — so successfully that they were able to provide surplus grain for their less frugal neighbors.

If there is a moral to be drawn, it is this: don't count on your neighbor for surplus energy.

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Interview: A Legislator, an Industry Spokesman, and a Conservationist Discuss the Energy Problem

The following interview with Assemblyman Charles Warren Chairman of the Assembly Subcommittee on State Energy Planning, David J. Fogarty, Vice President of Southern California Edison Company, and William H. Press, Executive Director of the Planning and Conservation League, was conducted in Assemblyman Warren's office on May 30, 1973. The purpose of the interview was to examine and expand upon the viewpoint expressed by each of these three men in the preceding articles.

Journal: The three of you seem to agree that there is a serious energy problem now. What is the essence of this problem for California as you see it?

Assemblyman Charles Warren: I think the essence of the problem is the failure to rationally manage the use of our resources. I think if we had been developing and implementing a policy of rational use of the resources for the past several decades, we wouldn't be discussing the situation now in crisis terminology. What the current situation really demonstrates is that we're going to have to undertake that program on a statewide basis in a fairly extensive manner.

William H. Press: That's right. It's basically a question of the stewardship of our resources. We do have limited resources. I think that in the field of energy, as in the field of land use, that we have been proceeding with development without stopping to question whether those resources are limited, whether or not we should move in one direction rather than in another. And now, suddenly, we're caught short.

Journal: Are you saying it's just a part of a broader resource conservation problem?

Press: I think the same lack of direction and lack of policy applies to many other areas of the use of natural resources. I think another aspect of the immediate energy problem is really a lack of information. It seems to me that we have a lot of conflicting figures about what our possible supplies are, what the shortages are. Even from the industry we get different figures, and all the different study teams present different figures. It's confusing to all of us involved in the subject.

Journal: What's the industry viewpoint?

David Fogarty: Well, I think it's similar to what Assemblyman Warren said. Basically, we started out with a policy in the United States of providing abundant low-cost energy. The performance of the electric utility industry, for example, was measured by how much of a reduction there was in the price of electricity from year to year. That was the goal we were all following. It was part of the enabling legislation for the Federal Power Commission in 1936. And it's been the guide and the goal for a number of years. I think coupled with that problem is the awareness of the land use problem. The ecological movement, or the conservation movement, that's become so popular in the last few years has put a very sudden brake on this. In addition to running out of the resource, we also have that factor. The two are often confused.

Journal: Do you see this as primarily a state problem, or a federal problem, or both?

Fogarty: Well, we view it primarily as a national problem, as a minimum, and maybe even a worldwide problem. The competition for the oil supplies in the world today is going to be waged between Japan, Europe, and the United States, because we are the big consumers, but we are short of our own supplies.

Journal: Does this mean that the state has to wait for the federal government to take effective action?

Fogarty: Well, I think there are some things the state can do, but whatever the state does has to be in concert with what the federal government has done.

Warren: I think what Mr. Fogarty says is correct. Inasmuch as the present energy problem is focused on fossil fuels and the availability of oil and natural gas, it is a worldwide concern. There are some areas of the problem, however, which can productively be handled by the state. Foremost among them, I believe, is that of electrical energy. It occupies a unique position in the whole energy spectrum; that is, that we have a monopoly situation existing under terms of the franchise. It's a state monopoly. We have distinct service areas with a sole provider in each service area. We can have some impact on how our electrical supplies will be used, and we can have impact on how we are to provide a supply of electricity — the only reservation being we cannot control the availability at a particular price of the low-sulphur oil and natural gas currently being used predominately for the generation of electricity.

Journal: There have been several studies in the past indicating that the United States was using up its reservoirs of oil, and we've known for some time that the natural gas supply was dwindling in this state. Why, then, has the energy crisis in terms of fuel oil and gas for electric power generation hit us so suddenly?

Fogarty: Well, there were a couple of things that happened almost simultaneously. First of all, the electric utilities — my company, for example, was producing about 85 percent of it's fossil kilowatt hours with natural gas. We had substantial quantities of natural gas available that we got as surplus from the

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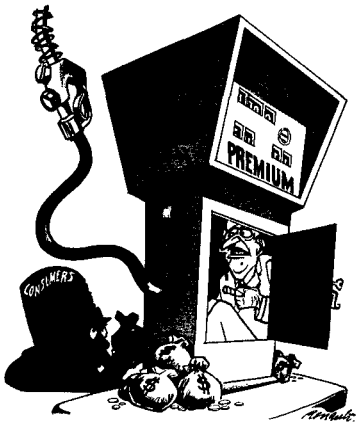

'You have been wasteful and self-indulgent . . . I am going to raise prices . . .' — Sacramento Bee

gas companies. Then, very suddenly, the gas supplies dropped off to where we predict in 1975 they will be 10 percent of our needs. This meant a drastic increase, maybe a five- or six-fold increase, in the amount of oil we had to burn. At the same time, with this larger quantity of the oil, the price of the oil started to go up, and in two year's time the price of oil has doubled. The oil we burn has to be low-sulphur oil, less than one-half percent sulphur, and this is only available to us from Indonesia and a little bit from Alaska. So now we're in competition in the world market with many of the other countries of the world.

But it was triggered initially by a drop in the availability of natural gas from Texas for utility purposes.

Journal: Wasn't this drop foreseen in any manner?

Fogarty: No, as a matter of fact, when my company and the City of Los Angeles petitioned the Federal Power Commission for permission to build a gas line into California — the Gulf Pacific gas line — we were faced with evidence produced by the gas companies indicating that they would have adequate supplies of gas for our purposes for a number of years in the future.

Press: How recent was that, Dave?

Fogarty: This activity began about 10 years ago, and the most recent hearings on it were, I believe, in 1966 or 1967. The gas companies also submit estimates to the public utilities commissioner on an annual basis, and all of these estimates of the gas companies were rather optimistic. So we were caught short by that move and then the requirements to go oversees for oil.

Journal: It has been said that the issue of the 70's will be power versus the environment. What's that mean, Bill?

Press: I may even have said that myself once in front of Mr. Warren's committee. I think this statement is true in that the problem of energy demands outrunning energy supplies is the greatest threat that the nation's environment has faced. It's the greatest single threat, I think, because it's such a compound threat — the tremendous drain on our resources required to provide the energy we need in any field. In the field of electricity, you have the question of hydroelectric dams and their impact on rivers; the siting of power plants, whether they're on the coast or on the desert, or wherever they are; the possibility of emissions from fossil fuel plants; the question of safety hazards and radiation for nuclear plants; and then compound that with the tremendous impact on the environment from the oil industry. The recovery of oil, plus the transportation cost, and the gasification facilities, added to today's increasing demands from that industry for further expansion, I think, equal power versus the environment as the issue of the seventies.

Journal: You've also suggested rather directly that in some part the crisis is a manufactured one that will benefit the oil companies and private electric utilities companies in terms of their prices and some relaxation in the environmental control standards.

Press: Those comments are directed primarily toward the present gasoline shortage, where I think legitimate questions have been raised about the timing. As Dave pointed out, as recently as last year in hearings regarding the import quotas in Washington, the oil and gas industry were very positive about the fact that they did have necessary supplies. Suddenly 12 months later, we find ourselves in a situation in which, for example, the City of Los Angeles put out bids for gas to run its municipal vehicles, and there's one company that responds with a 65 percent hike in price. There really are serious questions, I think, about how this could arise so suddenly without being foreseen.

Journal: What relief will there be for California motorists if a real gasoline shortage develops this summer?

Warren: Well, of course, there will be no relief. They'll just have to take their chances at the pump with competing motorists, unless some other rationing means is devised. Frankly, looking toward the not-too-distant future, I suspect that what we're going to have to do in order to avoid giving up the automobile completely is to reduce it's size substantially, and I think we'll see a rather hefty increase of the price of gas.

Journal: If gasoline prices should rise dramatically, as many people predict, to 50¢ a gallon or above, will there be any legislative reaction?

Warren: You might say there will be a lot of shock and dismay expressed. There will probably be some investigation. Depending on the severity of the increase and the availability of the resource will depend on the ultimate question of wehther or not to either manage the industry for the oil-producing segments or nationalization. Even that extreme proposal, I suspect, would be considered a moderate one.

Journal: Most of the reports that have come out, including the Rand and SRI studies, speak of the necessity of allowing the cost to the consumer of fuels and other sources of energy to rise to what they think is a reasonable market level, and yet consumer groups have fought for low-cost energy for years. Do you see any likelihood that in this state and nationally we can allow energy prices to rise without a major fight by consumers?

Fogarty: Well, if I might just mention our own experience with fuel-oil prices, this is already happening. What is going on is the internalization of these environmental costs. I mentioned earlier that we were burning great quantities of Indonesian oil in our system, and it's naturally at a higher price. These additional costs are passed onto our consumers, and the price of electricity is going up. One of the problems we don't have in the South Coast Air Basin is an SO_2 problem, and the reason we don't is because my company and the other electric utilities in the basin are spending a hundred

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million dollars a year premium for low-sulphur fuel oil. So there's an environmental cost that's being passed on to the consumers.

Journal: In the absence of adequate oil and gas supplies, it seems we must rely increasingly on nuclear-powered generating plants. How far away are we from being able to build a safe nuclear power plant?

Fogarty: We have one running today at San Onofre.

Warren: Well, I guess no one can quarrel with Mr. Fogarty on that, if he means that so far it has not injured or killed anyone.

Fogarty: I think the San Onofre unit has met all of the tests that were current at the time it was designed and constructed. It further has met the revised interim criteria on emergency core cooling and safety conditions. We believe it is a completely safe nuclear power plant.

Warren: One can't quarrel with that. You can't look at one site. What you have to do is examine nuclear generation as a general proposition. There are three major concerns. First, in so far as reactors of a boiling-water or light-water type are concerned, there is a possible problem with the emergency core cooling systems. The AEC is considering that problem, based on considerable testimony it has received in hearings held for that purpose. The second problem concerns the disposal of radioactive waste. This problem stems from the fact these radioactive wastes have to be placed in containers which are then placed in ponds and then must be monitored for a period of 250 thousand years. Which means that you will have to assume the social stability that will permit no disruption to that radio active waste.

Third is the problem of the external hostile force, the saboteur, the criminal element, guerrilla assaults, and the psychopathic individual or group which may see fit to crash an airplane into a nuclear reactor, or into the waste disposal area, and thereby release a discharge of radioactive waste into the atmosphere. All these problems are being considered. None of them in my opinion has been conclusively answered.

Journal: Edward Teller said the other day that we could build safe nuclear plants two hundred feet underground and that this would add only two percent to the cost of construction.

Warren: I think the two percent estimate of cost addition was very conservative.

Press: It takes a certain amount of presumption perhaps to differ with Dr. Teller, but I participated in the energy panel here in Sacramento last month at which he said that our technology can solve the nuclear safety problems and therefore we should go ahead with construction of nuclear plants while seeking the answers to the basic safety problems. I think there's an inherent contradiction there. Your later research might show that your plant designs were wrong from the beginning.

Fogarty: I think the area that is being given the most review right now in the emergency core cooling systems is this post-accident case with a "blow down" effect from the reactor. That was an area that wasn't tested adequately, and it's been a subject of a great deal of criticism at the AEC hearings. We expect to have the tests completed by 1975, which will answer the questions raised by various people concerned about emergency core cooling.

Warren: There's a new nuclear device being developed -- I think it's one which Southern California Edison proposes for its desert site — and that's the high temperature gas-cooled reactor. As far as I know, the emergency core cooling problem does not exist for that reactor, at least to the extent that it exists for boiling-water and light-water reactors.

Fogarty: That's essentially correct. The post-accident time period for light-water reactors is relatively short — a matter of a few seconds. Whereas for the high temperature gas reactor, the same condition might exist but you have several hours to correct the situation, rather than less than a minute.

Press: Isn't it also true that the helium, which is the coolant, never totally escapes? It may leak out, but you're never going to be without some coolant.

Fogarty: That's right. That's another inherent advantage of it. These things were looked at when we decided to go to the gas-cooled reactor. Another factor that was perhaps as persuasive was that on the desert, where we were considering the location, we knew we would be short of cooling water for the condenser, so we went to this system because it does use less cooling water than the light-water reactor system.

Press: I visited their facility in San Diego last week. They're developing a nuclear HTGR [high temperature gas-coded reactor] which might not even use cooling water — it would be air cooled.

Journal: Mr. Fogarty, you say you now have one nuclear plant that's considered safe, and you told Mr. Warren's committee several weeks ago that over the next 20 years you'll need a dozen more nuclear plants. Is planning going ahead on these?

Fogarty: Yes, at the present time, in addition to unit number one at San Onofre, we have just completed hearings with the Atomic Energy Commission on units two and three, which would be a pair of 1140 megawatt units. We have high temperature gas-cooled reactors also on order or under option with Gulf General Atomic. Two are 770 megawatt units, and two 1160 megawatt gas-cooled reactor units. This would carry us through the mid-1980's.

Journal: And these will meet, essentially, the energy demands in your area?

Fogarty: Well, these and other facilities, yes. In the short range, between now and the time San Onofre Two and Three come into operation, we're going to be almost completely dependent upon a combined-cycle type plant. This is a combination of gas turbines an dsteam tur-

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bines. And we have plans to locate four of these plants, one at Long Beach; one at Coolwater, near Barstow; one at Huntington Beach; and the fourth in the Lucern Valley.

Journal: Don't the major obstacles to nuclear plants have to do with the geology and the AEC's questions about accidents, rather than other state concerns?

Fogarty: Yes, the big items on San Onofre Two and Three, or the most time-consuming items, have been our dealings with the Atomic Energy Commission. It's been on matters of seismicity. And at the state level, the big item has been water, the regional water quality control boards. This gets us into several sets of hearings on the same subjects, and it has cost us something in time, but as you say, the main difficulty is with nuclear plants. I think that, because of the federal preemption on radiation matters, the federal licensing procedure will always be the pacing item for nuclear plants.

However, on the fossil plants, to give you an idea where a one-stop siting agency might help us, we're now going through a licensing process on Long Beach. We've been to the Air Pollution Control District and received a permit from them on air pollution. We've been to the regional Water Quality Board and also the State Water Quality Control Board, both of which held independent hearings on the same subject. We're now before the Coastal Commission, and we've been to four different meetings with the commission. The items that are drawing the most attention are the air pollution and the water quality requirements that have already been discussed and that have been approved by organizations that have veto power. If the Coastal Commission were to do something different than what these other agencies have agreed to, that would put us in a bind. Any one agency can say no, but no one agency can say go.

Journal: Bill, do you feel that agencies such as the Coastal Commission should give up their authority in this regard in order simplify the siting problem?

Press: No, I don't think it's a matter of giving anything up. I think it's a matter of coordinating and integrating the functions of these various agencies into one. We're convinced of the wisdom of a single agency responsible for siting as long as it is part of a coordinated approach to the whole energy-conservation ethic. As I would see that state commission, however, its approval of a power plant would depend greatly on the prior approval of the Air Resources Board, the Regional Water Quality Control Board, and, if it's located within the coastal zone, the Coastal Commission. I think those bodies would have to be part of that process.

Journal: Assemblyman Warren, you've introduced legislation to create a State Energy Resources Conservation and Development Commission. Can you describe what you think are its essential features and why you have some hope that it will have a major impact on the present problem?

Warren: What we've attempted to do is to cope with most of the things we've discussed here this afternoon. First, there is an expression of the need for state involvement in the planning and use of electrical energy. The commission is to act as the planning and information-gathering unit of the state, it will involve itself in ascertaining what the state of our energy demand and supplies are at any given time and report on a periodic basis as to its findings. It will also serve as a conservation element, and by that I mean that it is proposed that it will have powers to impose certain requirements on the use of electrical energy. Among them will be to mandate a certain level of insulation for new construction, so as to save considerable amounts of electricity required for heating and cooling space. We go into the whole energy design in the construction of buildings, and we give the commission the power to present additional recommendations to the Legislature in the event that it finds that the powers it has to reduce the demand curve are not accomplishing that purpose.

And it will serve as a one-stop siting agency in California replacing all other state agencies — save, for the period of its existence, the coastal commission, whose powers are constitutional and cannot be touched. It will also be responsible for developing an emergency plan in the likely event that a power shortage occurs in the near future, and from the information that I have, that power shortage will come no matter what we do now. And finally, they're given the responsibility of administering a research and development fund which will be used to encourage and develop, I hope, California-oriented energy resources to improve the efficiency of existing generating techniques and, more importantly, to develop what appears to be a unique California resource, geothermal energy, and, hopefully, solar energy — not only solar energy for the production of electricity but also solar energy for heating and cooling.

Journal: Given the nature of the present energy problem, why are you pessimistic about your bill's chances this year?

Warren: Well, the utilities would like to have nothing but a siting bill, I think. I think they'd like to go ahead with the policy of the state, which, in effect, is no policy. They'd like to conduct their business with as little interference as possible, which is understandable, and as a new agency it might be a little bit terrifying. The nuclear vendors — General Electric, Westinghouse, and the others — will not like it because as a result of the conservation policy the need for the number of nuclear units as presently anticipated may be decreased substantially and thereby result in a loss of future markets for them. Some local and regional agencies will oppose it because they believe that they will have to give up some of their power and authority in critical matters. Some of the conservationists will be opposed to it because they don't like one-stop siting, they prefer the present multi-stop basis, because it gives them more opportunities to stop the construction of new generating plants. I frankly don't know who's going to be for the bill except, that I hope that understanding, logic, and reason will prevail.

Fogarty: I think that Assemblyman Warren may have overstated the utilities' objections. I think that we are not interested really in "business as usual", we haven't been for severeal years. We haven't been able to get permission to start a new power plant since 1968.

Warren: Well, if you've recognized this problem for years, why is it that only two months ago you ended your policy of subsidizing contractors who constructed all-electrical houses and apartments? And up until a few months ago, your TV advertising and other forms of advertising were designed to encourage the use of electricity.

Fogarty: Our last promotional ad was placed in

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March of 1972. Our subsidy to builders, which really was a conservation of energy subsidy, because it did pay for the insulation to make sure that the homes did not use enormous quantities of electrical energy, ended only recently because thees were long-term contracts with the builders. I think we have been in a different role than has been recognized.

One problem that I think we haven't addressed ourselves to here, and to me it's really germane to the whole issue, and to Mr. Warren's bill, is that what we're really talking about is the issue of growth in California. We're considering various measures, a Coastal Commission, a new commission on power plant siting or electric energy, but what we're really talking about is how much growth are we going to have in the state of California. Are we going to have the same amount of growth that we've had in the past? Well, clearly, we're not. The migration into the state has stopped, the aerospace business has fallen off, we're not going to ever return to the 1960's. What we've got to decide, I think, is: are we going to supply enough energy to create enough jobs to maintain work for our population that's reaching the job-level age? Are we going to provide enough energy for additional jobs beyond that so we'll have a certain in-migration? Or are we going to go below that so there's a slight exodus of people from California?

I think that the growth policy, and it ties in with the land-use planning that Bill was talking about earlier, all of these things, is really what we're striving for. But we're doing it with a Band-Aid approach. Proposition 20 is like that. It gets at land use, but it really has an element of growth policy in it. The power plant problem is really how much electricity are we going to provide for the future and how much growth are we going to have?

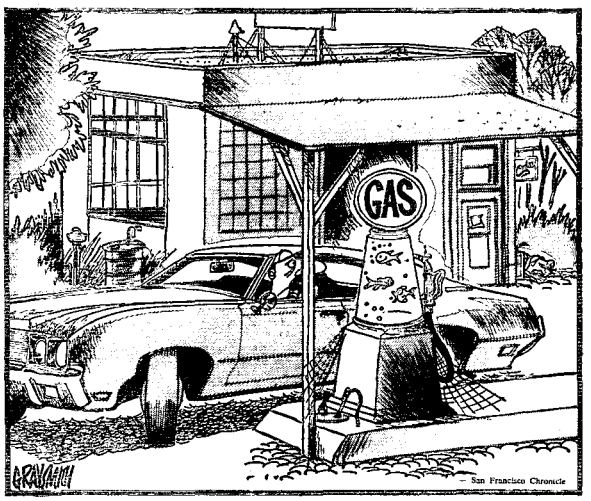
Warren: Let me comment on that. My legislative proposal does not deal with that question at all. It's objective is to eliminate or minimize the inefficient and wasteful use of electricity. I suppose if we could develop solar energy into electricity there would be no harm in greatly expanding our electrical uses; in fact, I suspect that that's what we would want to do. I would hope that electricity would substitute more and more for the fossil fuels. I think that's what we have to do, frankly. If there's not going to be gasoline for our automobiles, then we have to have a mass-transit system, and that system will have to be electrical.

So I think electricity is a resource that you really can't waste, as such. But we will use it more in ways which will not pollute or result in the waste of limited resources, and we might be able to do that geothermally and by solar energy and perhaps by nuclear fusion. Nobody should set a policy as to what the growth should be in the terms of the use of electricity.

Fogarty: Well, I was thinking more in terms of growth for the State of California — total growth in gross state product and the population.

Press: It seems to me that's one of the responsibilities of this commission, too. To determine at least what we'd expect to be the projected growth rate in California through the year 2000, how we can slow down the present and the projected demands for energy, and then set an energy policy accordingly.

Fogarty: I think they'd also have to tie it to land use, and transportation, and many, many other things because growth in the State of California is not just tied



to the consumption of electric energy.

Press: The point I want to make is that because this particular proposal does not solve all problems at once can not be used as a cop-out for not supporting what I think is a very reasonable and fair approach to the problem. If the utilities are serious about providing for the public's energy needs in a way that's going to work to the maximum benefit of everyone in the state, then this is a measure that makes a lot of sense and that they should support. Nothing that you were saying, Dave, is contradicted by this approach.

Fogarty: The point I was trying to make, and apparently not very successfully, was that our whole economy has been based on the theory of the ever-expanding pie. There was always more for almost everybody, but I think what we're moving into now, and what I hear Mr. Warren talking about, is moving closer to a zero sum game. That is, you limit the amount of electric energy you're going to have. All right, that means if anybody is going to get more, he's going to have to take it away from someone else. We've never had that situation before. We've always had enough for everybody.

Warren: I don't want my silence to indicate that I acquiesce in your understanding of anything I've said here before. I'm not proposing zero growth, nor do I propose such a policy in my bill.

Fogarty: The rationing aspect of the apportionment of electric energy, I think will be a . . .

Warren: No, that's only in an emergency when you have brownouts and blackouts — deciding who should get the power first, who has top priority: hospitals, certainly, and law enforcement agencies. I think you would have to do that on some basis anyway, and I think under the bill the commission will work out those plans with you, because the utilities have the technical knowledge as to what can be done.

Fogarty: The Public Utilities Commission is already doing that, but I would hope that your bill would look, first of all, to doing something to satisfy the demand and to try to avoid a situation where we're rationing electric energy.

Warren: Well it does. But from what the utilities have told me, I don't think we can do it in time. If what Southern California Edison, for example, has told me is correct, their critical period is going to begin in 1975 or 1976.

Fogarty: Yes, we indicated if we couldn't get started, couldn't get the authorizations for Huntington Beach, Long Beach, and Coolwater — and San Onofre, but

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that's in the 80's — we could see our reserve margins dropping in 1975 and getting below the 15 percent level, certainly, in 1976.

Warren: So, all I'm saying is that even if the commission were in being now, with the powers set forth in the bill, I'm not sure that it'd be able to act in time to permit you to solve that 1975 problem. That's all.

Fogarty: We'd like to see something addressed to the solution of that problem.

Warren: Your problem apparently is the Coastal Commission. There' nothing you can do about that, because it's a constitutional problem.

Press: I'd like to make one comment from the Planning and Conservation League's point of view regarding the Warren bill, which we really feel is an excellent bill and the right approach to the problem. The one element which we find lacking is sufficient attention to pricing as an energy-conservation tool. Your bill, I believe, allows the commission to study the possible impact of pricing and make recommendations to the Public Utility Commission. We would like to see that authority removed, in the field of electrical energy, from the PUC and placed in the hands of this commission. The same commission that is defining policy, that is recommending energy-conservation measures, is going to be lacking a very important tool if they don't also have the power to set rates. I think there's increasing evidence to indicate that energy pricing like all other pricing is elastic, meaning that the amount consumed is directly related to the price you pay for that commodity.

Journal: There seems to be some expert difference of opinion on that question.

Warren: The Stanford Research Institute in its report took both positions, saying that it was inelastic and also that the market place would take care of the problem.

Journal: Bill, I believe you've argued also that the pricing of electricity as it is now is both discriminatory and encourages wasteful practices.

Press: Well, I think it does encourage greater use and I've indicated I think there are studies to prove that. I believe that if we had a surcharge on supplemental energy demands during peak hours, particularly for air conditioning, that you could cut down the demand for power at that particular time.

Fogarty: The rate paid by various classes of customers does differ. It's typical of any industrial process. Over the years, the utilities generally have reported to their regulatory commissions the cost of service. We have a different cost for providing service to an industrial customer than we do a residential customer. The industrial customer does not require as many facilities of us on a per-unit basis as does a residential customer. The industrial customer takes delivery at a higher voltage, so we don't have as many substations and distribution lines to serve him as we do the residential customer. So the cost of serving a residential customer is higher than an industrial customer. But the Public Utilities Commission in California, as in most states, does have the power and does exercise the power to get into the area of social engineering. For example, in California, the rate set by the commission for the first block of power is underpriced. That is, the center-city low user is actually subsidized. Street lighting is another area that's generally subsidized. So the social engineering is being done. The utility position, or at least my company's position, is that we should report to the commission the cost of the service, and let some other agency make these kinds of adjustments. If we are to be saved whole and earn the return that we required to attract the capital that we need to do business, we require a certain amount of revenue. If that comes more from one class or another, that's the commission's business to make the determination, not ours.

Press: That's another argument, I feel, for putting pricing in the hands of the state energy commission. It seems to me the fact that cost of service as the sole determinate in the setting of rate structures is in itself a promotional energy policy that the commission could look at and make the necessary changes.

Journal: Bill, given the dissatisfaction with most regulatory agencies on the part of environmentalists and economists and many others — for example, with the Federal Power Commission — why do you really expect so much more from another strong state regulatory agency?

Press: That's always the hooker. How long will it be before this regulatory body begins to be regulated by those it is supposed to regulate? I think one control is in the appointment process. In the Warren bill, the appointments are to be made by the Governor and confirmed by the Legislature. The proposal the Planning and Conservation League made was that the appointments be made by the Governor, the Speaker, and the Senate President pro Tem. I think you can build in some guarantees in the appointment process. And, secondly, I think it's a matter of building public participation into the system — which we feel very strongly about and which is present in the Warren bill — so that the public is constantly there every step of the way.

Fogarty: Bill, have you ever been to a rate hearing for a utility before the PUC? I can't really see any difference in what you mentioned. The public does come before the commission on rate matters and various viewpoints are discussed. Generally, the push is towards lower and lower rates. I'm not sure how you expect the public to come to this proceeding and argue for higher rates. That is a little far-fetched based on my experience.

Press: No, I'm really saying that in the planning process and in the policy-making process and in the siting process that there is built-in citizen participation in the work of the commission.

Press: I'm not sure we're going to resolve that here. I think the public has indicated its willingness to pay the price of environmental quality in California in several bond issues around the State.

Journal: One final question. Has the public been getting the message about the energy crisis?

Fogarty: For the past few years, I've been occupied quite a bit talking to members of the public in public forums about the energy crisis, and I can assure you that the public certainly is getting the message. A few years ago, it took me a great deal of time to explain that there really was a problem and what the nature of the problem was. That's no longer the case.

Press: I don't know how they could avoid getting the message. It has been a saturation approach. I fear it may be one-sided because of the advertising dollars of the oil companies, but there's no doubt that they are aware and that they are concerned.

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Rigidity Ignores Performance

Consultants Want State Civil Service Overhauled

By BRUCE KEPPEL

State civil servants are underpaid, and those who do the best work are unlikely to be paid more or move up through the ranks faster than those who are content just to put in a day at the office. Both the pay situation and the rigidity of the present civil service structure are pointed out in an independent study for the State Personnel Board made public May 24th.

The study, by the management consultant firm of Cresap, McCormick and Paget, Inc., found that state employee salaries and benefits lag generally behind those paid for comparable work in private enterprise. The lag runs counter to state policy, as embodied in statute and repeated periodically by Governor Reagan, that its workers should be paid "prevailing rates" outside government. It arises despite periodic surveys by the State Personnel Board of wages paid in certain "benchmark positions" in private businesses in the Los Angeles-Orange County and San Francisco Bay areas. At fault, the study concludes, are a fragmentation of salary-setting authority in state government and a failure to compare an employee's "total compensation" — wages and fringe benefits — with its equivalent in the private sector. To correct these deficiencies, the study outlines a "plan of action" keyed to introduction of major legislation next spring.

In a nutshell, Cresap, McCormick and Paget would greatly increase the authority of the State Personnel Board, having determined it to be the best-equipped existing agency in the executive branch of state government to assume broad salary-setting responsibilities that now are scattered about the executive branch. The consultants also recommend a restructuring of state civil service to provide greater flexibility in the system and more incentive for state employees, particularly in the higher grades. They would also provide civil servants with a choice of two tracks to follow in their state careers:

- Advance steadily, if slowly, through the ranks as under the present system, which is heavily weighted toward seniority and features job security and regular, if modest, pay raises.
- Or take a chance in a new, more free-wheeling employment world, where more rapid promotions and greater salary increases, based upon job performance, are possible.

Finally, the state is urged to modify its present salary-survey techniques, which are judged to be overly restrictive, and to compare state and private pay in terms of "total equivalent compensation" rather than on the present piecemeal basis of the prevailing practice in providing various specific benefits.

In surveying how state workers are faring now in "total equivalent compensation" in comparison with private workers, the consultants found, among other things (see tables), that:

- The state lags behind private industry by an average of 13 percent.
- The state lags behind the federal government by an average of 11 percent in seven of nine "benchmark positions" compared, and leads in two (attorney and electrician).
- The state lags behind city and county governments by an average of 12 percent in seven of 10 benchmark positions (clerks, janitor, electrician, registered nurse, engineer, analyst, and policeman), and leads in three (auditor, attorney, and park ranger).
- In a three-way comparison with private business, federal and local government, the state lags by an average of 12 percent (ranging from three percent for attorneys to about 20 percent for clerks).

The consultants also compared base salaries and specific benefits. In terms of salary, they found the state lagging behind private business by about 12 percent (which is approximately the amount the Governor has budgeted for pay raises in 1973-74). In surveying specific fringe benefits, they concluded: "The state leads private industry in vacations, holidays, and family-death leaves, lags in uniform allowances, shift differentials, and moving expenses, and is comparable in the other categories. In comparison with local governments, the state leads in holidays and family death leaves, lags in vacations, sick leaves, and shift differentials, and is comparable in the remainder. In comparisons of the state practices with those of the federal government, the state leads in holidays and family-death leaves, lags in vacations, sick leave, uniform allowances, shift differentials, and moving expenses, and is comparable in the other three categories."

'Badly out of balance'

The resulting package of fringe benefits, the consultants told the State Personnel Board, is "badly out of balance." Employees are asked to contribute too

State Civil Service Salary Policy

The salary range shall be based on the principle that like salaries shall be paid for comparable duties and responsibilities.

In establishing or changing such ranges, consideration shall be given to the prevailing rates for comparable service in other public employment and in private business.

— Section 18850, Government Code

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much, in some cases, for the wrong benefits, they said. Excessive retirement income is provided through the Public Employees' Retirement System (PERS), for example, but there is inadequate cost-of-living protection, and disability and death benefits are "generally not sufficient for employee needs and would be even more deficient without Social Security." They also found that one-third of the state's employees do not carry major medical coverage, and suggest that it be made a mandatory benefit with the state increasing its contribution both for the employee and for his or her dependents.

The consultants are also critical of state policy allowing sick leave to be accumulated without limit. By doing so, they reason, the state is unequally meeting employee needs — income replacement during short-term disability. (Those most needing sick leave are the most likely to have exhausted it.) Further, by allowing sick leave to be accumulated endlessly, the state makes it appear to be an earned right rather than insurance. Their solution, the consultants said, is to let workers accumulate only 12 days of sick leave. When that is exhausted, however, their income is replaced by a long-term disability benefit, which covers them until they are either able to resume work or to retire as permanently disabled.

While finding state vacation policy "generally in line" with prevailing practice, the consultants consider the number of holidays granted to state workers as overly generous. "Strong public criticism has been generated," they note, "by the noncustomary holidays, such as election days, when most other persons are working." They recommend cutting the number to 10, the current prevailing custom.

Restructuring civil service

To render the civil service system more flexible and create greater incentive among performance-motivated employees, the consultants offer the two-track career system. The problem with the existing unified structure, in their view, is that it is "better suited to the . . . needs of the clerical and trades groups than to the professional, administrative, and technical classifications." In these categories, they found, the system is overly restrictive in not allowing for excellence of performance in considering promotions. "For most civil service employees, the merit salary adjustment program . . . serves more to reward longevity than performance, at least in the short term. The program provides adjustments virtually without regard to performance. It also provides uniform adjustments regardless of individual performance level, yet provides no adjustment at all for employees on the top step of a salary grade. Annual employee performance evaulations are prepared, but are not tied directly to the merit salary-adjustment program."

To remedy this, the report would give professional, administrative, and technical civil servants the choice of advancing within a system in which there are much broader ranges of compensation and fewer steps within each grade; but, while "employees choosing it would have the opportunity for higher-than-average increases through rated performance, lower-than-average increases or no increase at all would be a potential risk." Once having chosen this performance-based system, moreover, an employee could not later return to the

SELECTED STATE PAID BENEFITS COMPARED WITH PRIVATE INDUSTRY, LOCAL, AND FEDERAL GOVERNMENTS

Paid Absences And Allowances	Compared With Private Industry, The State of California:	Compared With Local Governments, The State of California:	Compared With The Federal Government, The State of California:
Vacation	Leads	Lags	Lags
Holidays	Leads	Leads	Leads
Sick Leave	Is comparable	Lags	Lags
Family Death Leave	Leads	Leads	Leads
Uniform Allowances	Lags	Is comparable	Lags
Training and Education Allowances	Is comparable	Is comparable	Is comparable
Meals and Transportation Allowances	Is comparable	Is comparable	Is comparable
Shift Differential Allowances	Lags	Lags	Lags
Moving Allowances	Lags	Is comparable	Lags
Bonus Allowances	Is comparable	Is comparable	Is comparable

Source: State Personnel Board

TOTAL EQUIVALENT COMPENSATION (TEC)* OF STATE EMPLOYEES COMPARED WITH PRIVATE INDUSTRY, FEDERAL, AND CITY AND COUNTY EMPLOYEES

Bench-Mark Position	California Weighted Avg. Monthly TEC	Private Weighted Avg. Monthly TEC	Lag	Federal Weighted Avg. Monthly TEC	Lag	City, County Weighted Avg. Monthly TEC	Lag
Junior Clerk	$ 505	$ 599	18.6%	$ 505	0 %	$ 536	6.1%
Intermediate Clerk	655	776	18.5	657	0.3	682	4.1
Combined Clerks	618	752	21.7	632	2.3	652	5.5
Janitor	676	808	19.5	782	15.7	728	7.7
Electrician	1,173	1,214	3.5	1,123	(4.3)	1,585	35.1
Registered Nurse	948	1,027	8.3	1,110	17.1	1,046	10.3
Engineer	1,390	1,653	18.9	1,688	21.4	1,571	13.0
Auditor	1,311	1,529	16.6	1,454	10.9	1,206	(8.0)
Analyst	1,302	1,474	13.2	1,324	1.7	1,355	4.1
Attorney	2,068	2,164	4.6	1,483	(28.3)	2,029	(1.9)

*Sum of base salaries and fringe-benefit costs for each bench-mark position

Source: State Personnel Board

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traditional longevity-based alternate. Thus, the consultants conclude, "the security of future salary adjustments would differ between the alternates, [but] the security of employment would be identical."

Because of the complexity of administering such a system, they urge an experimental approach in putting it into effect.

Outside the system

The compensation survey also turned up relatively low salaries for senior state officials whose jobs are either exempt from civil service (political appointees), or are covered by statute (as in the case of the Governor and other state elected officials). Being outside civil service, these employees' pay comes under no continuous administration or review, the consultants point out. To remedy the resulting "compaction", or lack of significant differences between senior grades, they suggest pegging statutory salaries to that of the Governor, which is presently $49,100 a year. Salaries of employees occupying positions exempted from civil service, on the other hand, would be pegged either to the statutory salaries or to specified points within civil service.

To provide for review of these salaries, the consultants suggest providing a "self-activating index of change" based on the annual change in the average of all civil service salaries. If the index moves beyond a specified point, a salary review is automatically triggered. In any case, an annual review would be made by the present Committee on Executive Salaries with its findings reported each January.

Setting state policy

Who has responsibility for setting state compensation policy? The consultants point out that this responsibility is fragmented among the personnel board, the Governor's Office, and the state Board of Control, among other agencies, with the Legislature, of course, holding final authority. As a result, they write: "There is no point of consolidated policy and program development for total compensation within the state short of the ultimate authority of the Legislature. Rather, policy and program development, and ongoing administration in some areas, are badly fragmented. Only the consolidated responsibilities of the State Personnel Board relative to civil service salaries are an exception to this general condition."

The absence of a consolidated compensation policy subjects the Legislature, which sets statutory responsibility in all areas of state-employee compensation, to an annual peppering of special bills, each of which adjust or correct a single detail (which doesn't make them less complex). Further, because the bills cover isolated benefits, the consultants maintain, a legislator's view of the overall situation is apt to be obscured by detail, while special interests are encouraged to push for piecemeal improvements.

Finally, the report notes, there now is no single state agency with which public employees can bargain. "It is quite likely not clear to an employee that any single entity short of the Legislature has a legal responsibility for developing a service-wide total benefit policy. In terms of employee relations, this means that there is no specific location for employee associations to turn in their desire to influence the formulation of such policy." To provide the single focal point for developing civil service policy that the consultants find lacking, they suggest that one agency be given compensation-setting responsibility, and they set out the following criteria that it should meet:

- Ability to provide continuous attention to total compensation.
- Freedom from short-term pressures from special interests.
- Ability to coordinate and integrate the entire total compensation process.
- Ability to conduct employer-employee relations within the total compensation framework.

"Based on analysis of several alternatives against these criteria," the consultants conclude, "it is recommended that complete responsibility for all aspects of total compensation policy and administration for the Civil Service System be assigned to the five-member State Personnel Board. Assisted by the staffs of both SPB and PERS, the board best meets the criteria for effective formulation and administration of [civil] service-wide, total-compensation policy. The board should assume responsibility for meet-and-confer sessions on all aspects of compensation, [and] each December it should propose annual total compensation programs to the Governor for inclusion in the budget."

After the consultants had finished their presentation to the board, a member of the audience, Walter W. Taylor, General Manager of the California State Employees Association, referred to this last point. Where, he wanted to know, would collective bargaining take place? (See *California Journal*, May 1973, p. 148, for an analysis of legislative proposals concerning public employee relations.) The consultants replied that whatever provisions for collective bargaining that do emerge from the Legislature could be "integrated".

'Plan of action'

The consultants included in their report a "plan of action" to carry out their recommendations. It is geared to the introduction of an omnibus bill next spring encompassing all the changes that require legislative approval. They observe that 1974, being an election year for statewide office, "will be particularly important to the recommendations for statutory and exempt salaries." The reason is that any changes made during a term cannot by law take effect until the beginning of the next term. Failure to enact legislation next year, thus, would delay the effective date of changes in the salaries of constitutional officers until 1978.

Though it is relatively rare that major bills pass both houses of the Legislature and are signed into law by the Governor the same year as they are introduced, the consultants nonetheless expressed optimism. For one thing, they said during their presentation to the board, a coordinated state policy toward compensation will greatly simplify the present fragmented system. Treating total compensation enables costs and the various interests involved to be evaluated more clearly. And the adoption of a coordinated state policy should cut the present, persistent, and time-consuming need for special legislation. Finally, they pointed out, many of the recommended changes — particularly in how "prevailing practices" are surveyed and the results applied — can be instituted upon the board's adoption of them.

"That's an awful lot to digest at one time," commented SPB Chairman Robert M. Wald. He announced a series of public hearings starting this month on the Cresap, McCormick and Paget recommendations.

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It was said...

When you go into a bar and you start talking with a guy and you find out he's backing candidate A over your boy, before you call him a sonofabitch, remind yourself that you're going to need his vote and his work when your tiger wins the primary.

. . . by Assemblyman John Burton, state Democratic Party chairman, explaining his concern not for the party's many gubernatorial candidates but for their supporters.

All of us would like freeways to be as beautiful as possible, but with less money we may have to cut back. The situation has reached a crisis stage.

. . . by State Highway Commissioner Vernon J. Cristina, commenting on shrinking funds for freeway landscaping, a $27 million program this year.

In contradiction to what another candidate once said, the press will — for a long time in the future — have Jess Unruh to kick around.

. . . by former Assembly Speaker Jess Unruh in the wake of his third-place finish in the race for mayor of Los Angeles.

Public office requires a surrender of a part of private life, and the privacy of income has been greatly abused in too many instances . . .. The public is entitled to know where a candidate's money is obtained, both for his livelihood and for his campaign.

. . . by Representative Jerome Waldie of Contra Costa County, a candidate for the Democratic nomination for Governor, in making public his 1972 state and federal income tax returns.

A legislator has a two-fold job, one of representation and one of leadership. They are not simply a mirror of public opinion. And the popular side is not always the right side.

. . . by Assembly Speaker Bob Moretti, explaining his opposition to legislation to restore the death penalty, despite a 2-1 preference for it shown by voters in November.

If I get it, I would put it some place like your Coney Island — Blackpool, for instance.

. . . by Herbert J. Stratton of Berkston Ash, England, in offering about $75,000 to buy the San Quentin gas chamber (which he learned is not yet for sale).

Mass transit is more and more coming to be considered as a public service — like parks, libraries, playgrounds. Why should we not pay for mass transit as we pay for streets and parking facilities for autos?

. . . by Jean Drapeau, mayor of Montreal, on a visit to Bay Area Rapid Transit.

You sit there at meetings, and as you look around the table you figure out how old they are and how sick they are. That is the unfortunate fact about the seniority system.

. . . by Representative Yvonne Brathwaite Burke, a former Assemblywoman, reflecting on her new congressional colleagues.

CALIFORNIA CALENDAR

Meetings of the following state boards, commissions, and councils are listed each month; if one of these is not listed, it can be assumed that it is not scheduled to meet this month. Boards, commissions, and councils to be included are: Board of Education; Board of Equalization; Board of Governors of the California Community Colleges; Board of Trustees of the California State University and Colleges; Consumer Advisory Council; Coordinating Council for Higher Education; Council on Criminal Justice; Highway Commission; Little Hoover Commission; Park and Recreation Commission; Regents of the University of California; and Social Welfare Board.

June 13	**Little Hoover Commission.** State Capitol, Room 6017, Sacramento. 10 a.m.
June 13-14	**Highway Commission.** Basement Hearing Room, Public Works Building, 1120 N St., Sacramento. 10 a.m.
June 14-15	**Board of Education.** State Building Annex, Room 1194, 455 Golden Gate Ave., San Francisco. 9 a.m.
	Commission on Peace Officer Standards and Training. PSA Islandia Hotel, San Diego. 10 a.m.
June 15	**Regents of the University of California.** University Extension Center, 55 Laguna St., San Francisco.
June 18-22	**Board of Equalization.** 333 East Walnut St., Pasadena. 2 p.m.
June 20-21	**Board of Governors of the California Community Colleges.** Airport Marina Hotel, San Francisco International Airport. 9:30 a.m.
June 21	**Council on Criminal Justice.** Woodlake Inn, Sacramento. 9:30 a.m.
June 21-22	**Social Welfare Board.** Marina Del Rey Hotel, Los Angeles. 7:30 p.m.
June 26	**Runoff Elections.** To fill the 67th Assembly District seat left vacant by the death of Larry Townsend, and the 80th Assembly District seat vacated by John Stull's election to the state Senate.
July 10	**Possible Runoff Election.** To fill the 12th Assembly District seat vacated by Bob Monagan.
July 12-14	**Law Revision Commission.** State Bar Building, 601 McAllister St., San Francisco. 7 p.m.

The following boards and commissions follow a standard monthly schedule and thus are not included in the Calendar: Allocation Board, second Tuesday of each month; Board of Agriculture, first Thursday; Commission of Housing and Community Development, third Wednesday of every other month; Lands Commission, last Thursday of each month; Merit Award Board, second Wednesday; Public Works Board, last Monday; Reclamation Board, second and fourth Fridays; San Francisco Bay Conservation and Development Commission, first and third Thursdays; Soil Conservation Commission, fourth Tuesday; Transportation Board, first Thursday; Water Commission, first Friday; and Water Resources Control Board, first and third Thursdays. Please contact the agency for meeting time and place.

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PEOPLE IN THE NEWS

State Assemblyman **Robert W. Crown,** 51, died May 21st of injuries received the night before when he was struck by a car while jogging. Crown, a Democrat, was first elected to the Assembly in 1956. He served as chairman of the Assembly Ways and Means Committee from 1961 to 1969 under former Speaker Jess Unruh. At the time of his death, Crown headed the Criminal Justice Committee, which has before it a series of bills on reinstatement of the death penalty for specified crimes. A longtime foe of capital punishment, Crown's vote on the committee was considered crucial. He is the fifth state legislator to die since last November.

On May 17th, Governor Reagan announced the appointment of **David B. Swoap,** 36, as director of the state Department of Social Welfare. Swoap has been acting director of the department since March, when Robert B. Carleson resigned to become special assistant for welfare matters to the secretary for Health, Education and Welfare in Washington, D.C. Before joining the Department of Social Welfare, Swoap was assistant secretary to the State Personnel Board. Previously, he had worked as an assistant administrative analyst with the Office of the Legislative Analyst assigned to reviewing the social welfare budget, as consultant to the Senate Labor and Welfare Committee, and as an aide to Senator Howard Way.

Raymond M. Reid Jr. has resigned as chief of the Division of Consumer Services in the Department of Consumer Affairs to become executive secretary to the department's Board of Medical Examiners. Appointed to replace Reid last month was **Robert L. Harvey,** 36, who has served as staff counsel for the division since November 1971; before that, he was chief of the Bureau of Employment Agencies.

Two major appointments in the new Department of Transportation were announced last month by Director-designate, James A. Moe. **Neil Dunham,** 47, deputy director of the Department of Public Works' Office of Planning and Policy, was named deputy director for the Division of Transportation Planning — one of six divisions in the new department. Dunham will be responsible for development of the California Transportation Plan (see **California Journal,** March 1973, p. 83). **Joseph R. Crotti,** 49, director of the Department of Aeronautics, was named deputy director for Mass Transportation, Aeronautics, and Federal Liaison in the new department. Both appointments become effective July 1st with activation of the new department.

Raymond C. Brown, deputy police chief of Oakland, was appointed last month as a member and board chairman of the California Adult Authority. Brown replaces Henry W. Kerr, a former Los Angeles police detective, who served as chairman since 1968. Kerr will remain on the board.

Deputy director of the Department of Conservation, **Edward N. Gladish,** 43, has been appointed executive officer of the State Lands Commission. State Controller Houston Flournoy is chairman.

State Superintendent of Public Instruction Wilson Riles announced the retirement of **Walter Coultas,** 66, as chief deputy in the Department of Education, effective August 1st. Coultas, a former superintendent of Los Rios Junior College District, will be succeeded by **Donald R. McKinley,** 46, superintendent of San Ramon Valley Unified School District since 1972. McKinley is a former president of the 14,000 member Association of California School Administrators.

Early in May, Reagan appointed four new members to the Council on Intergovernmental Relations and reappointed six current members. The new members are: **James Stearns,** secretary of the Agriculture and Services Agency, succeeding Caspar Weinberger; **Earl W. Brian,** secretary of the Health and Welfare Agency, replacing James M. Hall; **Frank J. Walton,** secretary of the Business and Transportation Agency, replacing Gordon Luce; and **Byron James,** a Piedmont business management consultant, succeeding James C. Haugh.

Dr. J. M. Stubblebine, director of the state Department of Health, has announced several appointments to positions in the new department, which will become fully operative on July 1st. **Frederick B. Hodges,** M.D., current director of the Department of Public Health, was appointed chief of the Division of Health Protection Systems. Assisting him will be **Philip Brodzinsky** and **Ronald W. Britting,** now with the Public Health Management and Planning Program. **Truman C. Schoenberger,** 53, was appointed by Stubblebine as chief of the Office of Advisory Liaison in the Department of Health. Schoenberger is a former executive secretary of the California Conference of Local Mental Health Directors and Program Chiefs and the Citizens Advisory Council of the Department of Mental Hygiene. **Richard H. Ochsner,** 42, will be acting deputy director for Legal Affairs in the new Department of Health. Ochsner has served as chief counsel of the Department of Health Care Services since June 1972. Appointed by Acting Governor Ed Reinecke, **Jerry W. Greene,** 40, will serve as director of the Department of Health Care Services until July 1st, when that department will be consolidated into the Department of Health. Green succeeds Dwight M. Geduldig, who was recently appointed director or the Department of Human Resources Development.

Governor Ronald Reagan has appointed **Melvin L. Bradley, 35,** to succeed **Robert J. Keyes** as his assistant for community relations. Keyes resigned to enter private business. Bradley, a former Los Angeles County deputy sheriff, has served since 1970 as liaison between the Governor's office and south central Los Angeles.

On May 16th, **Paul L. McKaskle,** 38, was named chief counsel to assist the Special Masters for Reapportionment, appointed by the state Supreme Court on May 1st to hold hearings on redistricting the state. McKaskle, who teaches law at the University of San Francisco, will help prepare the Masters' Report to the Supreme Court, which is due on August 31st. The three masters are: **Justice Martin J. Coughlin,** retired from the State Court of Appeal in San Diego, presiding master; **Judge Harold F. Collins,** retired from the Los Angeles Superior Court; and **Judge Alvin E. Weinberger,** retired from the San Francisco Superior Court.

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California Journal/*NEWSBRIEFS*

Occupants of Capitol get notice to look for space elsewhere

"All occupants of the west wing shall be out no later than September 15th, and sooner than that if at all possible." The speaker was Assemblyman John Burton, Chairman of the Legislature's Joint Committee on Rules, and his order May 22nd to vacate the historic west wing of the State Capitol had been expected since two independent engineering studies found the venerable building to be vulnerable to earthquake damage. With the ornately decorated Assembly and Senate chambers to be off limits to legislators after the same date, this 1973-74 legislative session will likely reconvene after its summer recess in a pair of amphitheater-like hearing rooms in the 21-year-old east wing.

Relocating the chambers is only one of the problems generated by the committee's order, however: Treasurer Ivy Baker Priest must find a place to stash the $10 billion in securities presently kept in vaults under the old wing. Moreover, members of the daily press who have hitherto enjoyed rent-free office space must now look for new bureaus. Secretary of State Edmund Brown Jr., whose offices are also in the old wing, had declared his intention to move out as soon as adequate space is found near the Capitol. And a former tenant, the Legislative Analyst's Office, is now installed in a sixth-floor suite in a new office building a stone's throw away.

Though the Capitol could be adequately strengthened, doing so would cost an estimated $40 million. Senator Randolph Collier has gained some legislative support to build a pair of 17-story towers on a four-block site just east of Capitol Park at about the same cost. If that is done, however, the original Capitol would be strengthened sufficiently to function as a state museum — at an additional cost of $8-10 million.

Feather River water reaches Riverside after 603-mile ride down state

It was in October 1961 that Governor Edmund G. Brown set off a 300-pound charge of dynamite near the mouth of the Feather River, marking the start of construction of the Oroville Dam. But the goal of shipping surplus water from northern California to the parched and populous south reached back before Brown's regime to those of Governor Goodwin Knight and Earl Warren. And, by the time the first water was ready to cross the Tehachapi Mountains 10 years later, it was Governor Reagan standing before the ceremonial button — this one linked to the big pumping plant that now lifts water over the mountains. Last month, on May 18th as scheduled, the 603-mile length of the California Water Project was completed, and it was Reagan again who pushed the button. Moments later, water flowed down into what will by next summer be Perris Reservoir, which is about 10 miles southeast of Riverside.

The $2.3 billion project was designed to deliver enough northern California water to support the needs of another 2.6 million people by 1980. But since the days of the project's conception in the growth-oriented fifties, both the nation's birth rate and immigration to California have eased significantly. In recent years, moreover, conservationists questioned the wisdom of such massive transfers of water, worrying particularly over the effect on the Sacramento-San Joaquin Delta and San Francisco Bay (see "The Delta Water Controversy," *California Journal*, January 1973, p. 11). The result has been to stall construction of a peripheral canal to tap Sacramento River water for the system and run it around the delta.

State buys a future for the nearly extinct Santa Cruz salamander

It may have been a muddy marsh to many, but to the Santa Cruz long-toed salamander it was even more than home: it was survival. Ellicott Pond lies between Watsonville and La Selva Beach on Monterey Bay, and is one of only two native breeding grounds left for the five-inch, black-and-gold amphibian, and the other one, near Aptos farther north, has been compromised by highway construction. Two years ago, when plans were announced to build a trailer camp at the site, scientists, conservationists, and Santa Cruz high school students pointed out the pond's environmental uniqueness, and persuaded the Board of Supervisors to rezone the breeding grounds. Last month, the state Department of Fish and Game announced that it had bought the 30-acre site for $85,000. The funds had been raised from the sale of personalized automobile license plates, on which the word SALAMANDER may not fit but THANKS surely will.

BART opens east leg; only transbay run remains incomplete

On the morning of May 21st, a blue-and-white BART car slipped quietly across the Chabot overpass in the Oakland hills, nearing the end of the inaugural run from the rapid-transit system's eastern terminus of Concord, in Contra Costa County, to MacArthur Street in downtown Oakland. MacArthur Street will remain the western terminus at least until September, when the transbay tube to San Francisco is scheduled to open. It will then be possible to ride the 80-mile-an-hour, air-conditioned trains from southern Alameda County north to Richmond in Contra Costa County, east from Concord, and west to Daly City, just southwest of San Francisco (see *California Journal*, March 1972, p. 90). When BART accomplishes that, ironically, rapid transit in the San Francisco Bay Area will have approached the point that it was at 35 years ago, when the electric trains of the Sacramento Northern Railway made the run from Sacramento through the Oakland hills, not far from the Chabot overpass, and across the then-new Bay Bridge to San Francisco.

Congressional, Senate and Assembly reapportionment nears legislative approval

As this issue goes to press a single bill containing the reapportionment of Congressional, state Senate, and Assembly districts is on the verge of final passage by the Legislature. The three maps were incorporated into AB 164 (Meade) in the Senate Elections and Reapportionment Committee on May 31st and sent to the floor for passage.

The Senate lines are the same as those contained in

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SB 195 (see *California Journal*, May 1973, page 153), approved on the Senate floor 25-13 on May 23rd. The Congressional lines are the same as those used in the 1972 election, lines which had been passed by the Legislature in 1971, vetoed by Governor Reagan, but ordered into effect for 1972 only by the state Supreme Court.

The Assembly lines are the same as those approved by the Assembly 61-12 on May 18th with a few amendments. Originally, the bill would have collapsed the seat of Assembly Speaker pro Tem Carlos Bee in Alameda County. With the death of neighboring Assemblyman Robert Crown, however, that district was absorbed instead. Another change was made to reflect the election of Republican Robert McLennan in the 38th District in Los Angeles County. That district, which was expected to be Democratic, was adjusted to be more Republican at the expense of neighboring Assemblyman Floyd Wakefield, who has indicated that he may run for Lieutenant Governor next year.

Some senators are upset with the all-or-nothing package of reapportionment bills because they believe the Governor will sign a bill containing the Senate lines alone. The Governor is almost certain to veto the package because of certain aspects in the Assembly and Congressional plans. It remains to be seen whether two-thirds of the Senators will vote to override a gubernatorial veto to get their plan, and whether the changes since the Assembly floor vote on AB 164 have broken the consensus that once existed for an override there.

The state Supreme Court continues to work to draw reapportionment maps itself in case the Legislature doesn't. Public hearings are to be held this month in Sacramento, Los Angeles, San Diego, and San Francisco to take testimony to guide the court-appointed "special masters" for reapportionment.

Republicans gain one Assembly seat in 38th District upset

One special election runoff, two special primaries, and the opening up of another vacancy requiring a special election made off-year 1973 a very busy political month even by election-year standards.

In the 64 percent Democratic 38th Assembly District, Republican Robert McLennan won a solid upset over Frank Vicencia, the Democratic favorite. Vicencia, who had worked in Sacramento as a lobbyist prior to the campaign received 10,117 votes (41.1%) to 13,524 (54.9%) for McLennan. George Deer, the Peace and Freedom candidate, received 959 votes (3.9%). McLennan's win moves the seat, held by Democrat Carley V. Porter from 1949 until his death last December, into the Republican column. McLennan is a Downey physician who supported restoration of the death penalty and stiffer penalties for drug sellers and users in the campaign.

Also on May 29th two special elections were held: in the 67th Assembly District vacated by the death of Assemblyman Larry Townsend and in the 80th Assembly District vacated when John Stull was elected to the Senate March 6th. In the 61 percent Democratic 67th District, Torrance City Treasurer Tom Rupert, a Democrat, led the 10-person field with 5,081 votes (21.5%). His Republican runoff opponent will be Paul T. Bannai, a Gardena City Councilman, who received 4,954 votes (20.9%). Also in the runoff will be James Dee, the American Independent candidate who received 314 votes (1.3%). The runoff will be held June 26th. Even though the 67th District is three percent less Democratic than the 38th District, Republican chances here are poorer than in the 38th due to a higher Democratic loyalty factor here. On the other hand, historically Republicans have done well in special elections and no one expected the Republicans to win in the 38th either.

June 26th will also see a runoff in the 80th Assembly District where Republicans have a 55-to-38 percent registration advantage and the primary probably is tantamount to election. William A. Craven, a Republican San Diego County Supervisor led the 15-person field with 15,220 votes (31.2%). Oceanside City Councilman William (Bill) Bell, who ran fourth, was the top Democratic vote-getter with 3,980 ballots (8.1%). Jack McCoy with 818 votes (1.6%) will be the American Independent candidate in the June 26th runoff.

A special election will be necessary to fill the 14th Assembly District vacancy created by the death of Robert Crown (see People). The district is 63 percent Democratic. Governor Reagan has not yet set the date of the election.

1973 Special Election Box Score

District	Seat of	Primary Date	Results
22nd S.D.	Carrell (D) Died	Jan. 30th	Alan Robbins (D) won in runoff, Feb. 27th.
38th S.D.	Burgener (R) Elected to Congress	March 6th	Assem. John Stull won in primary
38th A.D.	Porter (D) Died	May 1st	Robert McLennan won in runoff May 29th
67th A.D.	Townsend (D) Died	May 29th	Runoff June 26th
80th A.D.	Stull (R) Elected to Senate	May 29th	Runoff June 26th
12th A.D.	Monagan (R) Washington appointment	June 12th	—
14th A.D.	Crown (D) Died	—	—

Senate membership: 20 Republican, 20 Democratic

Assembly membership: 48 Democratic, 28 Republican

Bradley defeats Yorty to become Los Angeles' first black mayor

Los Angeles voters rejected Mayor Sam Yorty's bid for a fourth term May 29th, electing in his place Thomas Bradley, a black whose parents moved to California from Texas 42 years ago to find "a better life". Bradley won with 56.3 percent of the vote to 43.7 percent for Yorty. His election makes Los Angeles, the United States' third most populous city, the largest American city ever to elect a Negro to its top post.

Bradley, 55, spent 21 years on the Los Angeles police force, and earned a law degree by attending night school. He won a seat on the City Council 10 years ago, but was defeated by Yorty in an initial try for Mayor four years ago.

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Selected State Government Reports

ENVIRONMENT & NATURAL RESOURCES

Interest Group Opinion and California Land Use Legislation; by Rita M. Mize, Institute of Governmental Affairs, University of California, Davis 95616. ($2.50) December 1972. 44 p.

Open Space Zoning Handbook; by Frank Broadhead and Roselyn Rosenfeld for the Assembly Select Committee on Open Space Lands, State Capitol, Sacramento 95814. April 1973. 175 p.

Meeting California's Energy Requirements, 1975-2000; by the Stanford Research Institute, Menlo Park 94025. May 1973. 420 p. and separately bound copy of report's introduction, conclusions, and summary. Prepared for Los Angeles Department of Water and Power, Pacific Gas and Electric Company, Sacramento Municipal Utility District, San Diego Gas and Electric Company, and Southern California Edison Company.

The Politics of Development Review in the Lake Tahoe Basin; by William E. Felts and Geoffrey Wandesforde-Smith, Institute of Governmental Affairs, University of California, Davis 95616. ($2.50) May 1973. 40 p. Examines the process of development review during the first 18 months of the Tahoe Regional Planning Agency's existence.

EDUCATION

Governance of Higher Education: Six Priority Problems; by the Carnegie Commission on Higher Education, 1947 Center St., Berkeley 94704. ($4.50) April 1973. 249 p.

School District Reorganization in California; prepared by the Bureau of Administrative Research and District Organization, Department of Education, 721 Capitol Mall, Sacramento 95814. (No charge.) 1973. 16 p., plus maps.

Miller-Unruh Basic Reading Program 1970-71; Annual Evaluation Report; by the state Department of Education, 721 Capitol Mall, Sacramento 95814. (No charge.) April 1973. 24 p.

EMPLOYMENT

Critique of Salary-Setting and Classification Methods; by Cresap, McCormick and Paget, Inc., management consultants, for the State Personnel Board, 801 Capitol Mall, Sacramento 95814. (No charge.) February 1973.

Policies of the League of California Cities on the Subject of Labor Relations; by the League of California Cities, 1108 O St., Sacramento 95814. (No charge.) February 1973. 4 p.

Employer-Employee Relations Issue Paper; by the League of California Cities, 1108 O St., Sacramento 95814. (No charge.) February 1973. 6 p.

PUBLIC FINANCE

Revenue Sharing: A Second Look at the President's Strategy; by the California Taxpayers Association, 900 11th & L Building, Sacramento 95814. ($2.00) April 1973. 18 p.

Annual Report of the State Controller for the Fiscal Year July 1, 1971, to June 30, 1972; by Houston I. Flournoy, State Controller, Room 1114 State Capitol, Sacramento 95814. (No charge.) January 1973. 344 p.

HEALTH & WELFARE

1972 Health Facilities Malpractice Actions; by the state Department of Public Health, Health Facilities Resources Program, 744 P St., Sacramento 95814. (No charge.) February 1973. 27 p. Reports that more than one in four hospitals in California were involved in malpractice actions in 1972.

A Report to the 1973 Legislature on Implementation of the State Dental Program; by the Department of Public Health, 2151 Berkeley Way, Berkeley 94704. (No charge.) January 1973. 5 p.

A Report to the 1973 California Legislature on the Present Status of Emergency Medical Services and their Development to January 1, 1973; by the Department of Public Health, 2151 Berkeley 94704. (No charge.) January 1973. 14 p.

Multi-Service Centers: Innovations in the Delivery of Welfare Services; by Paul D. Marr, Harry R. Tanner, Michael S. March, and Herbert R. Sigurdson, Institute of Governmental Affairs, University of California, Davis 95616. ($3.00) April 1973. 90 p.

Department of Health Care Services, Review of Medi-Cal Management System; prepared by the Joint Legislative Audit Committee, Room 4126 State Capitol, Sacramento 95814. (No charge.) March 1973. 42 p.

MISCELLANEOUS

Department of Veterans Affairs, Hearing Before the Committee on Efficiency and Cost Control; prepared by the Assembly Committee on Efficiency and Cost Control, State Capitol, Sacramento 95814. (No charge.) March 1973. 184 p.

Regulating the Mortgage Loan Broker in California: A Critical Breakdown in Enforcement; by the Real Estate Research and Action Project, Room 510, Forum Building, 1107 9th St., Sacramento 95814. (No charge.) May 1973. 68 p.

California Statistical Profile; by the state Department of Commerce, Division of Business and Industry Development, 1400 10th St., Sacramento 95814. (No charge.) May 1973. 36 p. The second in a series of reports to help attract new business to California; includes statistical information on California's population, labor force, geography, climate, educational facilities, transportation and utilities, manufacturing, trade, and income.

NOTE: Unless otherwise indicated, reports may be obtained by writing the publisher, state agency, or legislative committee at the address given. Prices are listed when available.

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SENATE

April 30th to May 3rd

SR 35(A) (Mills) — Requires meetings of Senate committees and subcommittees to be open to the public, except for meetings dealing with administrative functions, personnel matters, matters of security, and meetings of party caucuses. Amendment by Senator Nejedly to require meetings of party caucuses to be open to the public refused adoption, 5-29.

SR 35(B) (Mills) — See description above. Amendment by Senator Dills to require only meetings of Senate standing committees and subcommittees to be open to the public. Refused adoption, 14-19.

SB 450 (Deukmejian) — Reimposes the death penalty for certain crimes, including murder, kidnapping, forcible seizure of an airplane, train-wrecking, and assault by a prisoner under life sentence. Also specifies when the death penalty and life sentence without possibility of parole may be imposed. Passed 27-12.

May 4th to 10th

SB 195(A) (Zenovich/Harmer) — Reapportions state Senate districts. Eliminates the sixth district of Senator Alan Short, who is retiring in 1974, and creates a Mexican-American district in the Los Angeles-San Bernardino area. New district lines split up approximately 15 counties. Vote on a motion to reconsider the bill and set it for re-hearing in the Elections and Reapportionment Committee. Motion adopted, 27-7.

SB 442 (Wedworth) — Revises punishment for first-degree murder, making the penalty either death or life imprisonment without the possibility of parole for 15 years. Passed 21-7.

AB 277 (McAlister) — Permits school districts to schedule junior and senior high school classes so that pupils may attend school for less than the regular number of school days per week as long as they meet annual attendance requirements. Passed 27-7.

AB 278 (Lewis) — Authorizes school districts to pay expenses of school personnel, including teachers and chaperones, participating in field trips or excursions, as well as any incidental expenses for the use of school equipment. Urgency clause refused adoption, 22-13 (requires two-thirds vote). Reconsideration granted.

May 11th to 17th

AB 368 (Brown) — Prohibits schools from administering scholastic aptitude tests or using individual scores from tests, except for a psychological evaluation or for purpose of college placement. Passed 21-13.

SB 403 (Stiern) — Authorizes school districts, upon approval of the Superintendent of Public Instruction, to contract with private firms for out-of-state work-experience education programs for high school students. Urgency clause refused adoption, 8-26.

May 18th to 24th

SB 145 (Nejedly) — Authorizes candidates for partisan offices to include a statement of qualifications in sample ballots to be mailed to voters, and permits statements to be in both English and Spanish. Passed 21-14.

SB 195(B) (Zenovich/Harmer) — Re-

VOTING RECORDS

Listed below are the votes of Senators and Assemblymen on recent major roll calls in the Legislature and a brief summary of the issues under consideration. Votes selected for inclusion are issues of major importance to Californians as a whole or issues on which there was a major division of opinion, or both.

Y—Yes *—Absent or Not
N—No Voting

A ⅔ vote is required for urgency measures, constitutional amendments, and appropriation bills.

Assembly: 41 votes required for passage of bills requiring majority vote. ⅔ = 54 votes.

Senate: 21 votes required for passage of bills requiring majority vote. ⅔ = 27 votes.

SENATE

Democrats 20	SR 35-A	SR 35-B	SB 450	SB 195-A	SB 442	AB 277	AB 278	AB 368	SB 403	SB 145	SB 195-B	SB 25
Alquist	N	N	N	*	N	Y	Y	Y	N	Y	N	Y
Beilenson	N	N	N	N	*	*	*	Y	N	Y	N	Y
Collier	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y
Dills	N	Y	Y	Y	Y	Y	Y	*	N	Y	Y	Y
Dymally	N	N	N	N	N	Y	Y	Y	N	Y	N	Y
Gregorio	Y	N	Y	Y	Y	Y	Y	Y	N	Y	N	Y
Holmdahl	N	N	Y	Y	Y	Y	N	N	N	Y	Y	Y
Kennick	*	*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mills	Y	*	N	N	*	Y	Y	Y	Y	Y	Y	Y
Moscone	N	N	N	*	N	Y	Y	*	N	Y	N	Y
Petris	*	*	N	N	N	Y	Y	Y	N	Y	N	Y
Robbins	*	Y	Y	*	Y	Y	Y	Y	N	Y	*	Y
Roberti	N	N	N	Y	*	Y	Y	Y	N	Y	Y	Y
Rodda	N	N	N	N	*	Y	Y	Y	Y	Y	N	Y
Short	*	*	N	*	N	Y	Y	*	N	Y	N	Y
Song	*	*	Y	*	Y	Y	Y	Y	N	*	Y	*
Stiern	N	N	Y	N	*	Y	Y	Y	Y	Y	N	Y
Walsh	*	Y	Y	Y	Y	Y	N	*	Y	N	Y	*
Wedworth	N	Y	N	Y	Y	Y	N	Y	*	N	Y	Y
Zenovich	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	*

Republicans 20	SR 35-A	SR 35-B	SB 450	SB 195-A	SB 442	AB 277	AB 278	AB 368	SB 403	SB 145	SB 195-B	SB 25
Behr	N	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y
Berryhill	N	N	Y	Y	Y	Y	Y	N	N	N	N	Y
Biddle	N	N	Y	*	Y	N	Y	N	*	N	N	Y
Bradley	N	Y	Y	Y	Y	N	N	N	N	*	Y	N
Carpenter	N	Y	Y	Y	Y	Y	N	N	N	Y	Y	N
Coombs	N	Y	Y	Y	Y	*	*	N	N	Y	Y	Y
Cusanovich	N	Y	Y	Y	Y	N	N	Y	N	N	Y	Y
Deukmejian	N	N	Y	Y	Y	Y	Y	N	*	*	Y	Y
Grunsky	N	N	Y	Y	*	Y	Y	Y	N	N	Y	Y
Harmer	N	*	Y	Y	*	*	*	N	*	N	Y	*
Lagomarsino	N	Y	Y	Y	*	*	N	N	Y	N	*	Y
Marks	Y	N	N	N	N	Y	Y	Y	N	Y	Y	Y
Marler	N	N	Y	Y	*	*	*	Y	N	N	Y	Y
Nejedly	Y	N	Y	Y	*	Y	N	Y	*	Y	N	Y
Richardson	N	Y	Y	Y	Y	N	N	N	*	*	Y	N
Schrade	N	Y	Y	Y	Y	N	N	*	N	N	Y	*
Stevens	N	N	Y	Y	Y	Y	Y	*	N	N	Y	Y
Stull	N	N	Y	Y	*	N	N	N	N	N	N	N
Way	N	*	Y	Y	*	*	*	Y	N	*	Y	Y
Whetmore	N	Y	*	Y	Y	N	N	N	Y	N	Y	Y

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apportions Senate districts (see description above). Passed 25-13.

SB 25 (Roberti) — Authorizes community colleges to establish and maintain student health centers, and authorizes physicians to perform medical treatment at these centers. Authorizes a student fee of not more than $10 annually for health services. Passed 31-4.

ASSEMBLY

April 30th to May 3rd

No major votes.

May 4th to 10th

AB 7 (Cory) — Delays scheduled sales tax increase, due to take effect June 1, 1973, until July 1, 1974. Earmarks $77 million of general fund surplus for Bagley Conservation Fund, and includes reconstruction of the State Capitol as one of the projects for which revenues from the fund may be expended. Passed 48-24.

May 11th to 17th

AB 276 (Burton) — Requires the state to reimburse private employers for 50 percent of costs of salaries and wages of Vietnam veterans up to 18 months. Appropriates $5 million to reimburse employers hiring unemployed veterans. Passed 57-6.

AB 373 (Brown) — Revises personal income tax credit for renters to make it a flat $40 instead of between $25 and $45. Passed 51-18.

AB 478 (Brown) — With the exception of the minimum wage, extends to men protective labor laws now applicable only to women and minors. Passed 49-17.

AB 692 (Crown) — Requires publication and distribution of a list of frequently prescribed multiple-source drugs, including their generic and brand names and wholesale price, to health professionals, physicians, and consumer groups, among others. Passed 57-9.

AB 164 (Meade) — Reapportions Assembly districts. Eliminates the Bay Area districts of Assemblymen Carlos Bee and John Foran, and creates two new districts in southern California. Passed 63-12.

AB 1116 (Cory) — Repeals physical education requirements for community college students. Passed 44-25.

AB 1177 (Fong) — Makes violation of Education Code provisions relating to the teaching of sex education ground for dismissal or revocation of the teaching credential, but repeals the requirement that a teacher's credential may be revoked for failure to notify parents of classes or to provide material for their inspection. Passed 42-26.

May 18th to 24th

AB 39 (Burton) — Provides that all meetings of the Assembly, Senate and their committees and subcommittees shall be open and public except for executive sessions on personnel matters, internal house matters, security matters, and political party caucuses. Authorizes individuals to bring action for violation of these provisions. Operative upon adoption of a constitutional amendment by the voters in 1974. Passed 69-1.

AB 110 (Brown) — Enacts $9.4 billion state budget for 1973-74. Provides $90 million in additional funds for social services and child development programs whose federal funds have been cut. Includes salary increases for state employees and higher education faculty. Passed 72-0.

ASSEMBLY

Republicans	AB 7	AB 276	AB 373	AB 478	AB 692	AB 164	AB 1116	AB 1177	AB 39	AB 110
Antonovich	N	Y	N	N	N	N	N	N	Y	Y
Arnett	N	Y	N	N	Y	N	Y	Y	Y	Y
Badham	*	N	*	N	N	N	Y	N	Y	Y
Bagley	N	Y	N	Y	*	Y	Y	Y	Y	Y
Beverly	N	*	*	*	N	Y	N	N	Y	Y
Bond	N	Y	N	N	Y	Y	N	N	Y	Y
Briggs	*	Y	*	*	*	Y	*	N	Y	Y
Burke	N	*	N	N	N	N	N	N	Y	Y
Chappie	*	Y	N	N	Y	Y	N	N	Y	Y
Cline	N	Y	N	N	N	Y	N	N	Y	Y
Collier	N	N	N	N	Y	Y	N	*	Y	Y
Duffy	N	Y	Y	N	Y	Y	N	*	Y	Y
Hayden	N	Y	*	Y	*	Y	*	Y	Y	Y
Johnson, R.	N	Y	N	*	*	Y	N	N	Y	Y
Lancaster	N	N	N	N	Y	N	N	N	Y	Y
Lanterman	N	*	N	N	N	Y	N	N	Y	Y
Lewis	N	Y	N	N	N	N	N	*	Y	Y
MacGillivray	N	N	N	N	Y	N	N	N	Y	Y
Maddy	N	Y	Y	Y	Y	Y	N	Y	Y	Y
Mobley	N	Y	Y	Y	N	Y	N	N	Y	Y
Murphy	N	Y	N	*	Y	Y	Y	Y	Y	Y
Nimmo	N	*	N	N	Y	Y	N	N	Y	Y
Priolo	N	Y	Y	N	Y	Y	N	N	Y	Y
Russell	N	N	N	N	Y	Y	N	N	Y	Y
Seeley	N	*	*	*	Y	Y	N	N	Y	Y
Wakefield	N	N	N	N	N	N	N	Y	*	
Wood	N	Y	N	*	Y	Y	Y	N	Y	Y

ASSEMBLY

Democrats	AB 7	AB 276	AB 373	AB 478	AB 692	AB 164	AB 1116	AB 1177	AB 39	AB 110
Alatorre	*	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bee	Y	Y	*	Y	N	Y	Y	Y	Y	Y
Berman	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Boatwright	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Brown	Y	Y	Y	Y	Y	Y	Y	*	Y	Y
Burton	Y	*	Y	Y	Y	Y	Y	Y	Y	Y
Chacon	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Cory	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Crown	Y	*	Y	Y	Y	N	Y	*	*	
Cullen	Y	Y	Y	Y	*	Y	Y	*	Y	
Davis	Y	Y	Y	*	*	Y	*	N	Y	
Deddeh	Y	Y	Y	Y	Y	N	Y	Y	Y	
Dixon	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Dunlap	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Fenton	Y	*	*	*	Y	Y	Y	Y	Y	
Fong	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Foran	Y	Y	Y	Y	Y	N	*	Y	Y	
Garcia	Y	*	Y	Y	Y	*	Y	*	*	
Gonsalves	Y	Y	Y	Y	Y	N	N	Y	Y	
Gonzales	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Greene, B.	Y	*	Y	Y	Y	N	Y	Y	Y	
Greene, L.	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Holoman	Y	Y	Y	Y	Y	Y	Y	*	Y	
Ingalls	Y	Y	Y	Y	Y	Y	*	Y	Y	
Johnson, H.	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Kapiloff	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Karabian	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Keene	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Keysor	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Knox	Y	Y	Y	Y	Y	Y	Y	Y	Y	
MacDonald	Y	Y	Y	Y	Y	Y	Y	Y	Y	
McAlister	Y	Y	Y	Y	Y	Y	Y	Y	Y	
McCarthy	Y	Y	Y	Y	Y	Y	N	*	Y	
Meade	Y	*	Y	Y	Y	Y	Y	Y	Y	
Miller	Y	*	*	*	Y	Y	Y	N	Y	
Montoya	Y	Y	Y	*	Y	Y	*	Y	Y	
Moretti	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Papan	Y	Y	Y	Y	Y	Y	N	Y	Y	
Powers	Y	Y	Y	Y	Y	*	*	Y	Y	
Quimby	Y	Y	Y	*	*	*	*	Y	Y	
Ralph	Y	*	Y	Y	*	Y	Y	*	Y	
Sieroty	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Thomas	Y	Y	Y	Y	Y	Y	N	N	Y	
Thurman	Y	Y	Y	Y	Y	N	Y	N	Y	
Vasconcellos	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Warren	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Waxman	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Wilson	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Z'berg	Y	Y	Y	Y	*	N	Y	Y	Y	

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LETTER FROM WASHINGTON
By Lou Cannon

May 27, 1973

Monagan finds a vacuum

It has been four months since Robert T. Monagan exchanged his California political ambitions for the busy anonymity of the federal executive branch. "I've lost all track of time," Monagan says, looking back on it. "I joined a department where the work was ongoing, where the legislative program was in-being. I plunged right in. It feels like I've been here for years."

For different reasons, this same time span seems a light year of political distance to those of us who were already in Washington. In the past four months, the Nixon administration has seen its mandate dissipated and its capacity to govern shattered beyond repair. The shadow of Watergate has fallen across every endeavor, weakening the structural foundations of the American political system and obscuring the vital controversies that otherwise would have occurred in the daylight of public debate

Monagan, looking little different than he did eight years ago when he became the pragmatic insurgent leader of the Republican minority in the Assembly, arrived here just in time for some of these obscured, important struggles. He joined a Department of Transportation then locked in frustrating combat with Congress on issues ranging from the Highway Trust Fund to the Airport Development Bill. And he took over a congressional affairs assistant secretaryship that, in the recent past, has been reduced to little more than an office for departmental errand boys.

Even before Watergate, the administration's grandstanding about budget cuts and the closing down of the Office of Economic Opportunity had obscured a traditional political reality — namely, that it is the executive branch that is progressive and Congress that is reactionary on many issues. One such issue is the Highway Trust Fund, which the Nixon administration has now tried twice to bust and which Congress has twice preserved. Ironically, it was John Volpe, a millionaire former-contractor-turned-Transportation-Secretary, who led the first assault on the fund. He was repelled by the Highway Lobby, operating from its entrenched positions inside the congressional committee system. In the fall of 1972, Volpe went on the surrogate campaign circuit for President Nixon and became one of the few in-house political heroes who valued an old-politics appeal to other second-generation Americans more than a piece of dubious intelligence about the rival candidates. Volpe was rewarded with the ambassadorship to Italy, which is as good a place as any to be during the second Nixon administration, and he left behind something of a vacuum in Transportation's office of congressional affairs. Old pol Volpe was his own best representative before Congress, and Transportation's office of congressional affairs had been largely sublimated to the secretary's personal style. "The office wound up sending runners to the Capitol," says Monagan. "I want to change that, and I think I can."

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Change does not come easily in Washington, however. Following his Sacramento pattern, Monagan arrives at his office by 7:30 or 8 and works an 11- or 12-hour day. But there is nothing unusual about such hours here. "In Sacramento there used to be a quiet time after 5, when the staff went home, but here the staff works until 6:30 or 7:30. Everybody stays."

Sometimes it seems to Monagan that he is working harder than ever to stay in the same place. "There's a problem of patience," he says. "It takes time to fire people, time to hire people. It takes four months to get a chair for the office. I've had to slow down my reaction time." An assistant secretary for congressional and intergovernmental affairs, Monagan bosses a staff of 32, including secretaries and assistants. But six of the 13 professional staff positions are vacant at the moment, partly because of Monagan's high standards and partly because of the difficulty of attracting good people to the government. The jobs pay $24,000 to $32,000 a year, but they are political appointments, without protection. No one, least of all Monagan, thinks that the political staff will survive the Nixon administration.

Unlike many another politician who might have made a good governor, Monagan is objective and unromantic about what happened to him in California. He lacked both the charisma and the political financing, and he knew for many years that his faint hopes for the governorship rested on a restoration of Assembly leadership now beyond the immediate hopes of the Republicans. "I wanted to run," says Monagan, "but it didn't work out that way." He is unromantic, also, about the reasons for his move to Washington. "I'm 52," he says. "One of the reasons I took this job was that it was the last time in my life I'd probably be ready to make a big move. I wanted to try it."

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The man who interviewed Monagan before he was hired was Egil (Bud) Krogh, the deposed assistant secretary who is the admitted architect of the break-in at the office of Daniel Ellsberg's psychiatrist. Monagan recalls the interview matter-of-factly, and he remembers being impressed by Krogh's apparent dedication and intensity. Those of us who are long off the police beat have learned to recognize a similar quality about others in the administration now shaded by scandal and, in tardy recognition, would be willing to trade this quality so valued by conspirators for the kind of low-key, problem-solving epitomized by Bob Monagan. It is good to have him in Washington. Beneath the shadow of Watergate, the problems of governance continue.

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If the ends don't justify the means,
what the hell does?

Robert Moses

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